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Clinical Medicine and Surgery

Medical Lib.

Volume 37 Number 2

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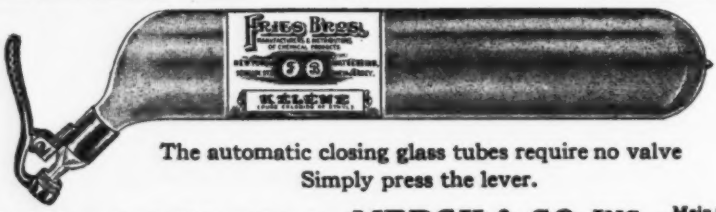

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AMBROÏSE PARÉ

THE FATHER OF MODERN SURGERY

CLINICAL MEDICINE AND SURGERY

VOLUME 37 FEBRUARY, 1930 NUMBER 2

Ambroïse Paré

THE advocates of heredity as the sole force in molding a man's destiny will find little encouragement in the story of the great French surgeon of the sixteenth century, for Ambroïse Paré, the Father of Modern Surgery, was the son of a valet and was educated in the hard but effectual school of stern experience. And, indeed, it is fortunate that he was not born a "gentleman" for, in those days (1510 to 1590 A. D.), the practice of surgery was a rather disreputable occupation, undertaken by the barbers as a side-line.

In accordance with this old custom, Ambroïse was apprenticed to a barber and came to Paris, a raw country boy of nineteen (1529), to practice the tonsorial art. But the surgical side of his work appealed to him more than the shaving of heads and the trimming of beards, and so he went as a dresser at that historic hospital, the Hôtel Dieu.

In 1537, Paré became an army surgeon and was at once sent to duty in the battle which was then raging for the capture of Turin. There he saw horrors which would freeze the marrow of the strongest men of today—and made a great discovery!

The surgical practice of the day was to treat all wounds, especially those made with the terrible new firearms, by pouring in boiling oil. The young army surgeon must have been overzealous, or the casualty rate terrific, for the supply of boiling oil was exhausted before the battle was over. What to do?

Ambroïse had sense enough to face an untoward situation courageously. He tied the bleeding arteries with pieces of bandage and applied a little white of egg to the wounds. Next morning he found that the soldiers he had treated after the oil gave out were in better condition than those who had been scalded. And he had the wisdom to recognize that he had discovered something new and important and to work along those lines thereafter.

When he returned from this campaign, the elderly and distinguished anatomist, Jacques Dubois, generally known as Sylvius, had him in to dine, and, after he had heard the stories Paré related, urged him to write a book. And so his literary career began with a little, 61-page treatise on the management of war wounds—and a new era in surgery was inaugurated.

For thirty years Paré remained with the armies and, so great was his skill that, when he was present on the battlefield, the soldiers felt that they had almost superhuman aid at their disposal. In the intervals of fighting, he was practicing,

observing and recording the results of what he saw.

He went through an epidemic of the plague, and described that devastating experience in unforgettable phrases. He, however, in common with almost every other of this time, looked upon that scourge as a direct "visitation" from an inscrutable and revengeful deity, and felt that it would be impious to seek means for its amelioration.

After his arduous and enlightening military service, Paré was happy to settle down to the peaceful practice of his art and, ere long, came to be recognized as the foremost surgeon of his time; so much so that he was called to be the personal attendant of the reigning monarch, King Henry II.

The scope of his personality is attested by the fact that, in addition to being almost worshipped by the rough soldiers, he became an equal success in the rarefied and artificial life of the court and was a familiar and universally loved figure wherever he went.

Paré continued under the patronage of the royal family during the reigns of François II and Charles IX, which were largely directed by the disastrous Catherine de Medici. Such store was set by his surgical skill that it is said he was the only Huguenot (Protestant) who was spared in the massacre of Saint Bartholomew, on which occasion he saw more blood in one day that he had seen in all his thirty years at the wars.

The greatest contributions to Surgery made by Paré were the refutation of the pseudo-Hippocratic doctrine of the treatment of wounds with boiling oil and the reintroduction of the ligature (lost since the time of Celsus), thereby making successful amputations possibble. Moreover, he recognized his limitations, as shown by his classical declaration: "*Je le pansay; Dieu le guarit.*" ("I dress the wounds, but God heals them.")

This incomparable surgeon has left us a rich legacy. His first book, scoffed at by the "authorities," because it was written, not in Latin, but, like the works of Paracelsus, in the language of the people, appeared in 1545, and was followed by other treatises on anatomy and surgery, between 1550 and 1572. He also wrote, always in the vernacular, for he had no Latin, concerning plague, smallpox and measles and, in 1582, made a vigorous attack upon the popular superstition that powdered mummy and unicorn had mysterious healing virtues. On the other hand, he believed, until his death, that a salve made from the fat of puppies had miraculous effects as a wound dressing. His writings, on account of their gossipy and intimate style, have been compared to those of the immortal diarist, Samuel Pepys.

Nor did he specialize strictly. His contributions to obstetrics, dentistry and medicine were numerous and valuable, in addition to such surgical innovations as the use of the truss in hernia, the fitting of artificial limbs, the first suggestion that syphilis might cause aneurism, and many other important matters.

Paré was not unmindful of his own powers, and made the bold statement that he had covered the ground and that nothing more was to be learned in surgery. And, for more than 200 years, *he was right!* No further step was taken until the discovery of antisepsis and anesthetics!

Bravely, richly and keenly he lived, wrought and died, well deserving that charming apostrophe of Oliver Wendell Holmes:

"Fine old Ambroïse Paré! That quaint and delicious writer; the surgeon of princes and the prince of surgeons!"

The essence of experimentation is that final decision is reserved until the experiment is complete.—Robert Maynard Hutchins.

We are all like children, playing on the seashore, picking up, here a pebble and there a stone, with the whole ocean of truth unexplored before us.—Sir Isaac Newton.

Finding and Keeping

WE ALL remember the delightfully satisfactory aphorism of our childhood, to the effect that "Finders is keepers." How happy that made us when we were fortunate enough to find something!

But what has that childish slogan to do with a medical journal? Just this: If one cannot *find* the valuable articles which have appeared during the year, whenever they are needed, there is no particular reason for *keeping* the numbers after they have been read.

With the idea of enabling every one of our readers to be a "finder," and hoping, thus, that many of them will be inspired to become "keepers," we are spending several hundred dollars in the preparation of a *real* index for the 1929 issues (Volume 36), so that these truly valuable periodicals can be bound into a sightly book, to be kept on the library shelves for ready reference.

Standard textbooks are, of course, a necessity to every physician; but none of them can possibly be up to the minute, so they must be supplemented by a study of the current professional periodicals.

During 1929 there have appeared in the pages of Clinical Medicine and Surgery, about 100 leading articles, most of which are of permanent importance; more than sixty editorials (including twelve biographies, with portraits, of medical celebrities, past and present) of decided cultural value; a carefully selected resumé of hundreds of significant articles which have appeared in the medical press of the entire world; as well as scores of helpful suggestions on diagnosis and treatment, book reviews and other items of vital interest to the clinician.

No one but a spendthrift would feel that he could throw away all this usable material when, with the aid of the elaborate and complete index which we furnish, as part of our *service* to our readers, he can, for a small sum, have it bound into a volume which, at current prices of medical books, would cost him ten or twelve dollars—and then would not serve the same purpose.

Many will want the volume bound by their own bookbinder. To such the index is free for the asking. A post-card will do, with the name and address and "Send the 1929 index."

To those who have no regular bookbinder we offer another service. Tear off the advertising pages of your twelve numbers and send us, by express, *prepaid*, the *reading pages only*, with a check for $2.50. We will have the volume substantially bound in library buckram, red, green or black (which color, please?), complete with index, and return it to you, express *collect*, as soon as possible.

This index, remember, costs plenty of money—and is *worth* it—but we give it to you, just to be helpful. *Ask for it!*

Books you do not have to make love you (as you to friends) in order to get the best of them; and, amidst all the worries and inevitable disappointments of life, they are noble helpmates, honest counsellors, sweet, trustful friends.—Dr. S. Weir Mitchell.

Psittacosis

THE newspapers have recently devoted a good deal of space to reports of cases of and deaths from the rather rare disease, psittacosis, which is generally recognized as being contracted by contact with parrots suffering from the infection. For this reason it is sometimes called parrot septicemia or parrot influenza.

In view of the fact that a number of cases, with several deaths, have been reported in various parts of the United States, while an even more extensive epidemic appears to be present in Europe, especially in Germany, it seems advisable to refresh the memory with regard to this serious malady.

The present outbreak gives evidence of coming largely from parrots and parrakeets imported from South America, and chiefly from Argentina, where psittacosis is said to be widespread among these birds. It would look like a wise precaution to avoid contact with parrots which give evidence

of any indisposition, especially those which have recently arrived in this country. The symptoms, in the birds, are loss of appetite, drowsiness and diarrhea. They remain in the dark corners of their cages, with drooping wings and ruffled feathers. All sick parrots should be killed or rigidly isolated and their cages carefully sterilized.

Psittacosis was probably first described by Ritter, in 1879. The largest epidemic reported occurred in Paris, France, in 1891, when there was 40 known cases, with 16 deaths, and sporadic cases were reported for several years afterward.

During this epidemic, Nocard isolated from sick parrots an organism closely resembling that of typhoid fever, which he called *Bacillus psittacosis*. In 1896, Gilbert and Fournier found a similar bacillus in a human patient who died of the disease.

In man, the period of incubation is about 9 days. The onset is characterized by malaise, headache, chills, pains in the back and limbs and sometimes nausea and vomiting. This is followed by a period of prostration, during which the temperature rises rapidly to 104°F. and the pulse to 100 or more. Gastrointestinal symptoms are present and epistaxis sometimes occurs. The coryza and conjunctivitis commonly seen in influenza, are absent.

When these symptoms have been present for four or five days, the patient begins to cough and soon develops the picture of severe broncho or lobar pneumonia, with a temperature running to 106°F., accompanied by delirium and sometimes coma. In favorable cases, the temperature falls by crisis about ten days to two weeks after the onset of the disease, and this is followed by profound prostration and a prolonged convalescence. The death rate is 30 to 40 percent, being especially high in elderly patients.

The physical signs, in addition to those mentioned, are: enlargement of the spleen; rose spots on the abdomen (frequently); and a normal, or practically normal leukocyte count. There are no marked changes in the blood or urine. It will thus be seen that psittacosis resembles a case of typhoid fever, with pneumonia superimposed upon it.

The chief laboratory diagnostic points are the absence of the leukopenia and the Widal test, which characterize typhoid fever. The organism can rarely be isolated from human blood, but the serum will agglutinate cultures of *B. psittacosis*, in dilutions up to 1:60. Recent contact with a parrot should be carefully investigated.

The treatment is largely symptomatic, resembling, in general, that of typhoid fever. Immunization may be attempted with a vaccine of the specific organism, used like typhoid vaccine.

We shall be glad to see reports of any cases of this serious disease which may be treated by our readers. Full details should be given.

The greatest physician is the one who makes the fewest clinical blunders.—Dr. J. E. R. McDonagh.

Cost of Medical Care

THE distinguished Committee on the Cost of Medical Care has completed two years of its five-year program of investigation, and has issued a summary of the work accomplished (chiefly the correlation and study of existing statistics) and two interesting pamphlets setting forth their findings on the extent of illness in the United States and the medical facilities available to care for the sick ones.

They find that the 36,000,000 wage earners in this country lose at least 250,000,000 days a year from their work; while the 24,000,000 school children lose 170,000,000 days from each school year, on account of illness. These figures, of course, embrace only half of the population.

Approximately 75 percent of this staggering total of illness is caused by these five groups of diseases, in about this order of importance: (1) Colds and bronchial conditions; (2) influenza and "grippe"; (3) digestive disorders; (4) diseases of the

pharynx, tonsils and larynx; and (5) nonvenereal genito-urinary diseases.

The complaints that most commonly bring patients to the physician are, in their order of frequency: (1) Upper respiratory diseases; (2) digestive disorders; (3) surgical conditions; (4) neuroses; (5) diseases of children (excluding communicable diseases and diarrheas of infants); (6) tonsillitis; (7) gynecologic cases; (8) heart disease; (9) arteriosclerosis; and (10) chronic arthritis.

On the other hand, the causes of death, in their order, are: (1) Heart disease; (2) pneumonia and influenza; (3) cancer; (4) cerebral hemorrhage and "softening of the brain"; (5) tuberculosis (this headed the list, 25 years ago); (6) congenital malformations and diseases of childhood (except diarrheas); and (7) diarrhea and enteritis.

Syphilis and gonorrhea keep about 1 percent of the poulation under the care of a physician. There are about 700,000 people with tuberculosis in the country all the time; about 10,000 with pernicious anemia; and about 110,000 drug addicts (less than 1 per thousand). Each year sees over 1,000,000 cases of malaria in the United States. There are about 900,000 mentally defective persons in the country; over 100,000 blind; 3,000,000 school children wholly or partially deaf; and 1,000,000 with major speech defects.

To care for this army of the ailing and disabled, there are 143,000 physicians; 67,343 dentists; about 32,000 "irregular" practitioners (osteopaths, chiropractors, Christian Science practitioners, etc.); 200,000 trained and 152,000 "practical" nurses; 55,000 midwives; 100,000 pharmacists; and over 700,000 public health workers, assistants, technicians, masseurs and other types of aides to healers—a grand total of nearly a million and a half.

There are 7,000 hospitals in the United States, each caring, on the average, for 100 patients every day; in addition to about 5,700 clinics; 57,000 retail drug stores; and 1,000 private clinical laboratories.

The latest report of the Committee, received a short time ago, deals with the efforts which hospitals are making to meet the needs of the man of moderate means. It appears that the number of beds in small wards and semi-private rooms, as well as of cubicle arrangements in the larger wards, is steadily, if somewhat slowly, increasing. Some hospitals are also adopting measures to make an *intelligent* adjustment of the costs to the patient's financial status, in a few cases arranging for partial payments over reasonably extended periods.

Some of the questions to be answered are:

1.—Are the present facilities for the care of the sick adequate; if not, what and where is the inadequacy?

2.—Just why are "irregular" practitioners so numerous; and should any effort be made to reduce their numbers?

3.—Just how may new and existing facilities be distributed to the best advantage?

4.—Are the various functions of the care of the sick properly apportioned between government and private institutions and individual practitioners; if not, how can this be done?

Statistics, in themselves, are dry things, to be sure, but these contain the very juice of our professional lives. What can *we* do about it? That is a question which cries for the earnest thought of every physician.

One point can be studied with immediate, *practical* profit by every disciple of Imhotep and Hippocrates—the list of conditions which most commonly bring people to the doctor's office. If those ten groups of diseases are thoroughly under our control, we can care, in a satisfactory way, for 75 percent of our practices—and that is decidedly above the average, for most of us.

Hospitals whose chief product is surgical operations are failing in their duty to the public and in their obligation to medicine.—Dr. Emmet Keating.

Clinical Research

IT *SEEMS* a bit strange that scientists in general, and physicians in particular, have paid an almost religious reverence to the findings of the laboratories for so many years, and are only recently coming to recognize that the "scientific method" is just as applicable in the clinic and at the bedside as it is in those sanctums of research where the test-tube and the microscope reign supreme.

There is a suggestion that clinical medicine may catch up with medical science, in the articles by McDonagh and by Byrd, in this issue, and in the abstract of Baer's rather startling declarations which appeared in the January, 1930, issue of this journal, on page 45.

McDonagh's theories are highly revolutionary, and many people consider them rather wild, but their clinical application appears to produce results which arouse the enthusiasm of those who are employing his methods in practice. This should stimulate many to find out what it is all about.

Sluder's claims are not universally recognized as being valid; but Byrd, in verifying and extending his theses, has apparently checked his results very carefully and made a reasonably sound demonstration that the clinic is able to contribute something to the basic sciences of anatomy, physiology and biology, instead of the help all flowing in the other direction. It is to be hoped that a number of men who have the knowledge of anatomy and the manual dexterity to inject the nasal ganglion and nerve will do so, and thus reenforce or refute the validity of his hypotheses.

After a man of Baer's reputation has paved the way, it ought not to take a remarkable degree of courage to experiment with his maggot treatment (which elicited much merriment on the part of our distinguished contemporary) in a few cases of osteomyelitis. These poor little patients are so pitiful, and their plight is so nearly hopeless by other methods, that this certainly seems worth trying. Then we'll *know!*

On the whole, it begins to look as if the day of the clinical research worker were dawning and the time may not be very far off when the man who studies the reactions of sick human beings, rather than healthy dogs and rabbits, may be able to stand up boldly and state his conclusions, without fear of the ribald laughter of the devotees of the laboratory, nor of exclusion from the councils of the self-appointed custodians of all that is "scientific" in Medicine.

Provincialism is the antithesis of culture; and the cause of provincialism, whether that of dress or manner or intellect, is *narrowness*.—Prof. Stanley Coulter.

Alkaloids and the Newer Remedies

THE physician of sixty or seventy years ago was little better off, as regarded his therapeutic armamentarium, than were his professional forebears of the middle ages. It is true he had quinine, morphine, strychnine and a few other alkaloids, which could be administered with a clear idea as to what they would accomplish; but, for the most part, the remedies at his disposal were decoctions, infusions, tinctures and fluid extracts of various barks, roots and leaves, of whose exact composition, at the time the patient took them, he was profoundly ignorant.

In 1876, the Belgian physician, Adolphe Burggraeve, conceived the idea of giving such alkaloids in a precise manner and watching for their therapeutic or physiologic effects, and called that system *dosimetry*. A decade or two later, this plan so impressed certain Americans that they imported it to this country, enlarged upon it by adding a number of new alkaloids and carefully standardized concentrates, and founded this periodical, under the name of the *Alkaloidal Clinic*, to promulgate this valuable plan among the physicians of the United States.

The accurately-measured doses of reliable drugs, given in an accurate manner, *produced results,* and the idea became decidedly popular, the *Clinic* sharing in this widespread esteem, and fighting, almost singlehanded, the battles which always rage about a new suggestion in Medicine.

Alkaloids, given according to the dosimetric system, *still work,* just as well as they ever did, and the reasons why CLINICAL MEDICINE AND SURGERY now devotes less space to that subject are various.

In the first place, the battles are over. The alkaloids are a recognized part of therapeutics. But more important is the fact that they are not now, as they were fifty years ago, practically the *only* remedies which could be given with accuracy and intelligence. Synthetic chemistry has given us a host of new drugs, just as potent and powerful as are the alkaloids, and these, being newer and, presumably, less well understood, come in for more attention. Even many of the "galenicals," which were more or less despised (and properly so, in their then state) by our founders, have now been purified and standardized to such a degree that they can be used with practically as great accuracy as the alkaloids were employed a generation ago.

The really big difference lies in the fact that, thirty-six years ago, when we began our work for the medical profession, the *science* of Medicine was very young and feeble (it is no more than a promising adolescent at this time) and few physicians were interested in anything else than suggestions, however empiric, for getting their patients well.

The recovery of the patient is still the chief aim of therapeutics, but there is a large and steadily growing percentage of physicians who are not content to be purely artists, asking only "*how,*" but who are becoming sufficiently philosophers to want to know "*why.*"

This journal aspires to be a leader, as well as a helper and teacher, in the field of *clinical* medicine and we strive, each month, to fill our strictly limited number of pages with material which will be of the greatest practical service to the largest possible number of our readers. To do this, we must look *forward,* not back; and while we love the older methods, which have stood the test of experience, no less, we must if we are to serve our purpose in the world, love the newer, well-sponsored remedies more—or, at least, talk more about them.

Our policies and purposes have not changed with the passing years; but the world—especially the medical world—*has* changed, enormously, so that the *way* in which we try to live up to our ideals has, of necessity, been altered to meet new conditions. We stand, as we have always stood, the champions of the best and most helpful features of *Progressive Medicine.*

The successful practice of medicine is predicated upon the purity, strength and accurate labeling of the drugs employed in case of illness.—Dr. J. J. Durrett.

ABOLISHING THE JURY

THE physician has, perhaps, a better opportunity than that possessed by men in any other line of work for observing the utter ridiculousness of our present jury system. In certain cases it appears to be taken for granted that we have graduated from the witch-finding methods of the old Salem days, for medical men, who are supposed to be scientific experts, are called into court to elucidate certain features of the case in judgment.

But, does the carefully considered testimony of the scientist finally decide the point at issue? On your life it does not! The results of his years of study and experience are merely submitted to a jury of twelve "good and true" butchers, stevedores, ward heelers, stenographers and others whose untutored emotions take the place of mental processes, with an occasional man of intelligence and a sense of civic responsibility who refuses to use every influence at his command to escape from

jury service. These arrive at a verdict, based largely upon the nature of their prejudices, the condition of their digestions and the personal appearance of the defendant.

Modern research is demonstrating that crime is a symptom of physical, mental or moral abnormality; and, if that be true, it is as farcical and disastrous to leave the handling of the case to the occupants of the average jury box as it would be for a physician to impanel the neighbors for the purpose of deciding whether a sick man had pneumonia or appendicitis and to outline the treatment.

It has remained for our "backward" neighbors to the south to set an example, in this respect, to our free (?) and allegedly enlightened Country. Mexico has revolutionized her penal system and has replaced the muddle-headed bathos of the jury by a scientific study of the social, anthropologic and medical, psychologic and psychopathic, as well as the educational, antecedents of the criminal; has retained the judge, to decide upon points of law; and has created a Supreme Council of Social Protection and Prevention, made up of five qualified sociologists and criminologists, to study the etiology and prophylaxis of crime and to execute upon the prisoners the penalties imposed by the judges, capital punishment being abolished.

It may be true that Mexico is an especially suitable field for penologic experiments; but those in charge of her destinies have established a worthy precedent which will not, in all probability, because of inertia, political pressure (the lawyers and the venal politicians love the jury system and will fight hard to retain it) and the spurious dignity which surrounds most of our courts, be followed by the United States for some years to come.

Not until some such scheme is in operation does it seem at all likely that the "medical expert" will serve any real purpose upon the witness stand nor approach that duty with any other feelings than those of distaste and futility.

Thor's Beard

When the old Norsemen saw the streamers bright
Stretch wide across the West at evening's hour
They called it "Thor's Beard." Likely they were right.
I, too, see God—His glory and His power.

—G. B. L., from "An Apostle of Joy"

LEADING ARTICLES

Asthma*

(A New, Chemico-Physical Concept)

By J. E. R. McDonagh, F.R.C.S., *London, Eng.*

ASTHMA is a manifestation of inherited disease, caused by the arrest of enlarged and agglutinated (hydrated) serum-protein particles in the perivascular lymphatic vessels, capillaries and arterioles of the lungs. The two main factors causing the hydration are a familial chronic intestinal intoxication and malcoordination. Treatment, to be effective, must be aimed at checking the intestinal intoxication and at teaching the patient the correct use of his body; all other remedial measures being merely palliative.

Asthma is not a disease nor even a clinical entity, because it merges into pulmonary shock (pulmonary collapse) when the hydration is more pronounced than usual, and into broncho-pneumonia when the hydration is less pronounced than usual. When the hydration reaches its maximum, the lungs are collapsed and bloodless, but the bronchioles are not constricted. Constriction of the bronchioles may be more marked in broncho-pneumonia than in asthma; consequently asthma is not a phenomenon solely dependent upon constriction of the bronchioles, as is usually thought.

Furthermore, there is no sharp dividing line between the usual expiratory dyspnea of asthma and the usual inspiratory dyspnea of pneumonitis. The type of dyspnea is regulated by the chemico-physical changes pertaining in the blood. In extreme hydration there is both inspiratory and expiratory dyspnea. When hydration prevails, the dyspnea is mainly expiratory, because the red blood-corpuscles remain unoxygenated. When dehydration prevails the dyspnea is mainly inspiratory, because energy, possibly electrical, is released. As hydration and dehydration frequently occur concomitantly, and one chemico-physical change prevails at one time and the other at another time, it happens that the dyspnea may be interchangeable.

Extreme hydration results in complete inactivity of the cells in the region where the protein particles are precipitated. Where nerve tissue is involved, paralysis occurs and this, in part, accounts for the absence of constriction of the bronchioles in pulmonary shock, collapse or atelectasis. When the hydration is moderate, hyperactivity of the cells occurs. Hyperactivity of the cells of the *alveoli* causes a desire for a more rapid interchange of gases, which cannot be satisfied, owing to the lungs being either depleted of red blood-corpuscles or containing those incapable of being oxygenated. This naturally results in expiratory dyspnea. Hyperactivity of the cells of the *bronchioles* causes hypersecretion of mucus. Owing to the expiratory dyspnea, the mucus collects in the bronchioles and cannot be expelled. *Hyperactivity* of the nerve tissue causes a constriction of the bronchioles, but as the constriction is less pronounced than that occurring in pneumonitis, as a result of the surrounding edema and collection of leukocytes, nerve influence does not play the *rôle* in asthma usually assigned to it.

Atropine and Epinephrin

Asthma is a symptom of vagotonia merely because vagotonia is the clinical expression of hydration of the protein particles in the plasma. Asthma is not due to

*See articles by Dr. F. Le Blanc, in Clin. Med. and Surg. for May, 1929 (p. 314) and Jan., 1930 (p. 46) for an introduction to McDonagh's ideas.—Ed.

stimulation of the vagus, and atropine does not benefit asthma by paralysing the vagus. As a matter of fact, atropine may aggravate an attack of asthma because, owing to the large size of the nucleus of the vehicle, its primary action is one of hydration. Any aggravation of an already existing hydration may precipitate an attack of asthma, and this is the explanation of what is called hypersensitiveness. Removing the sensitising agent no more than palliates the condition, because it does not touch the cause of the initial or preexisting hydration. Skin tests or allergic reactions are naturally valueless because, although they may lead to the detection of excitants, they blind the eye of the observer to the fundamental cause.

Adrenalin (epinephrin) is useful in asthma merely because it causes dispersion of the hydrated protein particles. It has no direct action upon the sympathetic nervous system, therefore it is incorrect to regard the palliation of an attack of asthma as occurring through the stimulation of this system. The dispersion effect of epinephrin is not so good as that of some of the other drugs mentioned below and, when used over a long period of time, it makes the asthma worse and sets up a condition akin to morphinism, owing to hydration being the final action of most drugs. There are many cases of true adrenalin asthma going about today, of which the following is a good example:

Case Reports

Case 1.—A man, aged 33, began to have asthma when 20 years old and had had it continuously ever since. One brother was similarly affected and the paternal grandfather died as the result of asthma. Every day for three years the patient had had one or more injections of epinephrin. This resulted in the development of paraplegia, with sphincter incontinence lasting three months. Some time later, when another course of epinephrin was prescribed, the patient developed an incomplete, right-sided hemiplegia, and at the time of examination he could execute no fine movements with his right hand. There was widespread pulmonary fibrosis, but the blood-pressures were not raised.

Blood examination.

Suspension stability of the red blood-corpuscles ..... 5.2 cc.*
(Normal about 0.2 cc.)
Refractive index of the serum..... 1.3492
(Normal about 1.3500)
Percentage of blood-sugar.....100 mgm.
(Normal about 100 mgm.)
Percentage of bood-urea..... 38mgrm.
(Normal about 30 mgrm.)

Ultra-microscopic picture: Hardly any particles to be seen, either moving or precipitated.

This blood-picture shows that most of the protein particles had been sent into true solution and that the particles left in the colloid state had undergone hydration and were poor in surface electricity, as evidenced by the enormous reduction in the suspension stability of the blood-corpuscles.

Asthma, occurring in children, is frequently indistinguishable from and is associated and interchangeable with bronchopneumonia, because, in children, hydrated protein particles readily undergo the cyclical change of dehydration. This explains, also, why asthma, occurring in childhood, tends to vanish when the child reaches adult life. Asthma in children is invariably associated with one or more of the cardinal signs and with other symptoms of inherited disease, and the condition readily responds to appropriate treatment, as illustrated by the following two cases:

Case 2.—A boy, aged 7, had had asthma every night for six months. The attacks were aggravated by active exercise. The mother and father had been operated upon for appendicitis and the mother's brother is Case 5. The patient had cyclical vomiting as an infant; hay-fever every year; and nocturnal enuresis occasionally. The teeth were bad and the hands were covered with warts. The urine gave an intense reaction with the hydrochloride of di-methyl-*para*-amino-benzaldehyde, indicating liver insufficiency

Blood examination.

Suspension stability of the red blood-corpuscles ..... 0.1 cc.
Refractive index of the serum..... 1.3473
Percentage of blood-sugar.....137 mgm.
Percentage of blood-urea.....16 mgm.

Ultra-microscopic picture: Many particles moving, with many large and refractile giant particles, ringed particles and giant-particled clumps. There were many giant particles, ringed particles and giant-particled clumps precipitated.

Bacteriologic examination of the excreta showed 10 percent atypical *Bacillus proteus hydrophilis*.

Treatment.—The patient was dieted (omitted butcher's meat, eggs and milk); made to have the bowels open two to three times a day; was given a course of treacle (molasses) enemas,

*Note: In comparing McDonagh's figures for suspension stability or sedimentation rate (the terms are synonymous) with Le Blanc's laboratory reports (where this factor is expressed in units of *time*, instead of cubic centimeters), it must be remembered that the former uses a tube 17 cm. in height and 9 mm. in diameter, which requires 7 cc. of blood, and reads off the *amount* of serum which separates in *1 hour;* while the latter uses the relatively much smaller Friedlander tubes, which need only 0.8 cc. of blood, and records the *time* required for the red blood-cells to settle to a line 18 mm. above the bottom of the tube. Each of these workers defends his method with sound arguments.

A rapid sedimentation rate (or decreased suspension stability) is indicated, in McDonagh's reports, by a *high figure;* and in Le Blanc's by a *short time*.—Ed.

until the colon was clean; and had injections of the fecal vaccine in doses of 125,000. He recovered completely. Two intramuscular injections of "Sup. 36" (0.005 Gm. each, on successive days) stopped the asthma at once.

Case 3.—A girl, aged 9, had suffered from asthma since birth. Her maternal grandfather and grandmother died of cancer. Her father suffered from hay-fever and his mother and brother were chronic asthmatics. The patient had one brother and two sisters: The brother suffered from asthma and the sisters from urticaria and epilepsy, respectively.

Blood examination.

Suspension stability of the red blood-corpuscles	0.7 cc.
Refractive index of the serum	1.3489
Percentage of blood-sugar	112 mgm.
Percentage of blood-urea	41 mgm.

Ultra-microscopic picture: Many particles moving, with a fair number of giant particles, all of which had a halo around them and were very refractile. The other particles moved very actively around the giant particles. There was an occasional agglutination precipitated.

Bacteriologic examination of the excreta showed 20 percent *Bacillus faecalis alkaligenes.*

Treatment.—The patient was dieted; made to have the bowels open two to three times a day; was given a course of treacle enemas until the colon was clean; and had injections of the fecal vaccine, in doses of 250,000. She recovered completely.

Asthma in middle life tends to occur in attacks. It is usually only one of several clinical manifestations of inherited disease, but although it does not respond to treatment quite so readily as does the previous type, nevertheless much may be done for the patient. The next two cases deal with this type of asthma.

Case 4.—A woman, aged 28, who used to suffer from asthma and chronic bronchitis as a child, sought advice for constant abdominal pain and a recurrence of the asthma. She had had attacks of rheumatic fever and was supposed to have had typhoid fever and paratyphoid. She had suffered from seborrhoea and *Acne vulgaris* and had once been jaundiced. The patient was always depressed; she suffered severely from dysmenorrhea and was in every way a typical example of familial chronic intestinal intoxication.

Blood examination.

Suspension stability of the red blood-corpuscles	0.3 cc.
Refractive index of the serum	1.3502
Percentage of blood-sugar	118 mgm.
Percentage of blood-urea	18 mgm.

Ultra-microscopic picture: A fair number of particles were moving, with some very refractile giant particles and ringed particles. There were many giant particles, ringed particles clumps and agglutinations precipitated, with some precipitation *en masse.*

Bacteriologic examination of the excreta showed 60 percent *Bacillus Morgan.*

Treatment.—The patient was dieted; had a course of colonic lavage; took ichthyol (1 grain —64 mgm.), three teaspoonfuls of colloidal iodine and 1 grain (64 mgm.) of thyroid substance, twice a day; and received intramuscular injections of "Sup. 468" (2 mgm. each, twice a week, for 8 doses) and of the fecal vaccine (500,000 and 1,000,000, on two successive days). She recovered competely.

Case 5.—A man. aged 33, had had asthma for 14 years. Eating eggs and having anything to do with rabbits brought on an attack immediately, and the smell of petrol frequently precipitated an attack. (This patient was the uncle of Case 2).

The patient suffered from chronic bronchitis as a child; had had two attacks of rheumatic fever; and had been afflicted with *Acne vulgaris* for many years. The optic discs were maldeveloped; the ears were prominent; the elbows were wide-angled and hyperextended; and the patient could not stand with his knees and feet together. All the molars had been stopped (filled) or removed; the tongue was furred and the patient showed acro-asphyxia. The pulse was 80 and the blood pressures registered 105 and 70 mm. of Hg.. respectively. An examination of the abdomen revealed tenderness in both hypochondria and both iliac fossae. The urine gave an intense reaction with the hydrochloride of di-methyl-*para*-amino-benzaldehyde.

Blood examination.

Suspension stability of the red blood-corpuscles	1.2 cc.
Refractive index of the serum	1.3487
Percentage of blood-sugar	62 mgm.
Percentage of blood-urea	39 mgm.

Ultra-microscopic picture: A fair number of particles were moving, with some giant particles and ringed particles. There were more particles precipitated as giant particles, ringed particles and clumps. The precipitation amounted almost to precipitation *en masse.*

Bacteriologic examination of the excreta showed 20 percent *Bacillus proteus Valeriei.*

Treatment.—Butcher's meat, eggs and milk were excluded from the diet; the colon was washed out; the attack which the patient had at the time of examination was checked with two intramuscular injections of "Sup. 36" (0.01 Gm. each, on successive days) and, later, four intramuscular injections of the fecal vaccine were prescribed, in two courses of two—500.000 and 1,000,000, respectively.

The patient had had a course of peptone injections without benefit; but, under the treatment here outlined, he recovered completely and was able to resume his occupation as a motor mechanic.

Asthma in the later decades of life is apt to be chronic, as opposed to occurring in attacks, and to be associated with pulmonary fibrosis. Pulmonary fibrosis is the result of chronic dehydration; and dehydration, existing over a long period of time, ultimately undergoes the cyclical change of hydration. This type of hydra-

tion tends to be permanent, hence explaining why the asthma is chronic. The following case depicts this type:

Case 6.—A man, aged 56, had had more or less incessant asthma and interstitial pneumonia for 14 years. His brother died of phthisis, aged 50; one half-brother (same mother) died of the same condition, aged 23; and another half-brother suffered from socalled "vasomotor rhinorrhea and bronchorrhea."

The patient had suffered from hay-fever and chronic nasal catarrh more or less all his life, and he presented most of the signs of familial chronic intestinal intoxication. He had had innumerable injections of epinephrin and had derived no more than momentary benefit from them. An autogenous vaccine had been made from the prevailing microorganism found in the sputum (pneumococcus); the first few injections relieved the condition enormously, but the asthma and bronchitis returned, and then failed to be benefited by further injections.

Blood examination.

Suspension stability of the red blood-corpuscles	0.55 cc.
Refractive index of the serum	1.3511
Percentage of blood-sugar	86 mgm.
Percentage of blood-urea	22 mgm.

Ultra-microscopic picture: Many particles moving, with a fair number of giant particles and ringed particles. There were a fair number of giant particles, ringed particles and giant-particled clumps precipitated.

Bacteriologic examination of the excreta showed 100 percent *Bacillus proteus Valeriei.*

Treatment.—The patient was dieted; had a course of colonic lavage; took iodine*, thyroid* and thiol-amino-methyl-glyoxaline, internally; had a course of intramuscular injections of Contramine, each of 0.125 grm., at 4- or 5-day intervals, and then injections of the fecal vaccine. He recovered completely.

Cardiac asthma is a sign of a failing heart; and a heart fails when hydrated protein particles become precipitated in the vessels of the myocardium.

Drugs Recommended

The drugs best suited to palliate asthma depend upon the type presented. Asthma, in children and occurring in attacks, responds best to the use of *conductors,* of which "Sup. 36" is the best, provided the injections are made as early as possible. If an attack has been present for some time, or occurs as a result of cardiac failure or of adrenalinism, drugs combining a conductor with a dehydration action are required, such as "Sup. 468," Para-thormone, strontium and calcium aspartate, acetyl-choline, etc.

In chronic asthma, dehydrators are called for, such as iodine, ichthyol and thyroid substance, prescribed internally; Contramine, injected intramuscularly; and oxygen, injected subcutaneously.

Asthma will disappear finally, only if the patient becomes coordinated and is relieved, as far as is possible, of the intestinal intoxication. Coordination is achieved best by the method practiced by F. M. Alexander, and mentioned in his "Constructive Conscious Control of the Individual." To rid a patient of his chronic intestinal intoxication, it is necessary to diet him; to see that he has the bowels open twice or thrice a day; to wash out the colon, to as far back as the ileo-cecal valve; and to prepare and administer a vaccine from the pathogenic microorganism found in the excreta. The most common pathogenic microorganisms are the socalled non-lactose-fermenters, including the *Bacillus proteus hydrophilis,* mutation forms of the non-pathogenic *Bacillus coli communis.*

To rid humanity of asthma it would be necessary for everyone to select his own great-grand-parents.

For fuller details of this and other manifestations of disease, the reader is referred to the author's two volumes on "The Nature of Disease," published by W. Heinemann, Ltd., London.

4 Wimpole St.,
Cavendish Square, W.

*As in Case 4.

Science and Values

Science and the scientific method, when properly controlled and properly regarded, are our sharpest weapons in carving out new facts *and the relations between facts. They have nothing legitimate to say about* values, *matters of feeling and emotion, which can be measured, but unprofitably, in the modern laboratory. Science, as a panacea, is man's latest exploded nostrum, and the results of the explosion have been so dire that a lost generation cries out for "A moralist! A moralist!"*—Fred B. Millett, *in* Univ. of Chicago Mag., *Dec.,* 1929.

The Clinic As a Field For Biologic Research*

By Hiram Byrd, B.S., M.D., *and*
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THE laboratory approaches to biologic research (including the biochemical, biophysical, cytologic, vivisectional and anatomic methods), have long occupied the foreground, while the clinic, as a field for scientific precision in research, has remained not quite, but almost, unknown. Moreover, the most commonplace phenomena of the clinic, as pain, nausea, vertigo and tinnitus, have been wellnigh beyond the pale of scientific investigation, unilluminated by the current advances, and unavailable as material for the promotion of further inquiry.

It had to be so, for until certain developments could take place, the clinic seemed to offer the most pathetic and empiric of approaches to science, quite incomparable to the precision of the laboratory. It was not until the procedure of intercepting a passing nerve current, and thereby immediately arresting a remote dysfunction, became known, that the clinic could assume its proper place in the advancement of pure science.

We had long ago learned that pain and various sensory manifestations were in some way associated with the nerves. We had also learned that nerves produce their effect through some influence transmitted along the nerve, variously called impulses or currents. We had further learned that, through this means, effects are produced at long range, from one extremity of the body to the other. And yet another thing we had learned was that these impulses, or currents, do not have the power of passing a section of nerve that is anesthetized, frozen, or injected with alcohol. What we had not learned was that all these facts could be turned to account in the investigation of pain and other phenomena in the living, conscious human being. It was not until Sluder, in 1903, anesthetized a nerve (thus intercepting the passing current) and relieved a remote pain, that the door to the clinic was unlocked for purposes of scientific research.

Sluder and the Nasal Ganglion

There was much groping yet to be done, however, before even the thought that the clinic could be used in scientific research took sufficient shape to be a reality. It was many years afterwards that, quite by accident, in applying Sluder's technic (anesthetization of the nasal ganglion), I arrested a pain in the chest, which pointed to an anatomic connection between the nasal ganglion and the thorax.

Under the vague impression of an anatomic investigation, I undertook to ascertain what other remote connections might be found. During a number of subsequent years it was discovered that there were remote connections between the nasal ganglia and all the major regions of the body—head, neck, trunk, pelvis and extremities—as evidenced by the repeated and prompt arrest of dysfunctions in these remote regions, coincidently with the application of Sluder's procedure in the nose.

One of the anatomic refinements that was early made was the disclosure of undoubted connection between the nasal ganglion and the eye. Such a connection is not generally given in the anatomies. "Gray's Anatomy," edition of 1887, mentions it, without assuming responsibility for it, but in subsequent editions consulted, it is left out altogether. Yet it was found in the clinic that it is the rule rather than the exception for a dysfunction in the eye, of no matter what nature, to be relieved by anesthetization of the nasal ganglion.

Through all this earlier period, the investigation was thought to be simply an anatomic one, with some limited therapeutic applicability. Ere the investigation had gone far, however, anatomic perplexities began to appear.

Anatomic Puzzles

What was the anatomic explanation of ovariitis on the left side being arrestible by anesthetizing the left nasal ganglion in one

instance, the right in another and, in a third instance, neither? What anatomic arrangement of nerve fibers would account for this freedom with which the same side or the opposite might be involved, in regions below the neck, while, at the same time, a dysfunction could never be arrested from either nasal ganglion interchangeably, in each case there being only one ganglion strategic? What was the anatomic interpretation of the fact that dysfunctions above the neck are always arrestible from the ganglion of the same side, if at all, while those below the neck follow no such rule?

How could anatomy explain why a case of asthma should be repeatedly relieved by anesthetization of the nasal ganglion, and then, without warning, cease to be so arrestible?

What was the anatomic explanation of the fact that a dysfunction, once arrested, sometimes never returns, sometimes returns after a period of days, and again, in certain instances, may return within an hour or two, although the life of the local anesthetic used is known to be approximately four hours? And, in cases where the dysfunction returns during the life of the anesthetic, why should subsequent attempts to arrest it by this procedure prove fruitless?

What anatomic arrangement could make it possible for the same procedure to relieve a dysfunction, sciatica for example, immediately and completely, in one instance, but to augment it in another instance, and precipitate it outright in a third?

How is it anatomically possible to arrest acute pain from a traumatic ulcer of the cornea by anesthetizing the nasal ganglion, and still have the path of sensation from the eye to the brain unimpeded, as evidenced by the fact that the very edge of the abrasion itself is sensitive to the slightest touch with a wisp of cotton?

How is it anatomically possible, by anesthetizing the nasal ganglion, a structure hardly larger than a pin-head, immediately and completely to arrest a large motor disturbance, such as frank chorea, involving the whole arm and leg, without interfering with the normal motivation of the arm and leg?

How is it anatomically possible, by anesthetizing the nasal ganglion, to arrest a secretory dysfunction, such as excessive lachrimation, or indeed, frank diarrhea, without interfering with normal secretion?

How is it anatomically possible, by anesthetizing the nasal ganglion, to reduce high blood pressure or to relieve disturbed respiration, without interfering with the normal balance of blood pressure or the normal actuation of the respiratory function?

Again, it is found that the trauma and irritation unavoidably incident to making an intranasal application usually results in some remote dysfunction—a cough, an attack of sneezing, lachrimation, itching of the roof of the mouth, twitching of the alae of the nose, a tickling sensation in the ear, and so on—sometimes a number of these manifestations being present simultaneously. Also, these manifestations are engendered by local irritation in the nasal chambers at wellnigh any point (the superior turbinate, the middle turbinate, the inferior turbinate, the septum, etc.), and this local irritation, regardless of where it may be in a given instance, may excite any of these phenomena—in one instance sneezing, in another coughing, in another twitching of the alae of the nose, and so on.

When it appeared that anesthetizing the nasal ganglion arrests and prevents these phenomena, showing that the ganglion is anatomically strategic in respect to all of them, the question arose: What anatomic arrangement of fibers could make it possible for a stimulus from any one of nearly a dozen places to pass the ganglion and produce any one of nearly a dozen results, or a number of them, indiscriminately?

From Anatomy to Physiology

Long before even hypothetic answers to these many questions could be formulated, it became manifest that the inquiry would have to shift from anatomy to physiology —from fibers to the *current passing over the fibers.* Even so, long after it was recognized that the investigation was a physiologic rather than an anatomic one—an investigation of the current—it was supposed that the interpretation of these phenomena would have to follow in the accepted and established channels of physiologic thought.

However, since our own efforts to interpret these findings in terms of current anatomy and physiology were unavailing, it became necessary to appeal to eminent physiologic authority for aid. But this proved a fruitless excursion, and may be

summed up in the words of Howell, of Johns Hopkins, who wrote: "There is nothing known in anatomy and physiology that provides a rational basis of interpretation for the results that you claim."

Here then, we had a tremendous array of facts, checked and counterchecked by various observers, which the present teachings of physiology were unable to interpret. Moreover, not only were these facts unforeseen by physiology and uninterpreted by it, but, in places, facts appeared which were in direct conflict with the teachings of physiology. For example, ear-cough. Physiology explains this phenomenon as caused by "impulses passing over the auricular branch of the vagus to the respiratory center,"* without reference to the superior maxillary nerve, or to the nasal ganglion or any nerve immediately connected with it: And yet the fact appears in the clinic, that anesthetization of the nasal ganglion immediately and completely arrests ear-cough.

Physiologic Errors

In the face of these multitudinous and diverse phenomena, and complicated and contradictory interpretations, the whole matter seemed, for a time, in a state of hopeless confusion, comparable to that stage of astronomy in which the earth was reckoned the center of the solar system. That all these phenomena were intimately related was as obvious as their seeming capriciousness, and this led us to imagine that some underlying physiologic principle had been unduly restricted or distorted in its formulation, and that, if that restriction or distortion could only be found, the whole subject would be clarified. Since the clinical phenomena observed were so extensively cross-illuminated, it seemed not too much to hope that, in that cross-illumination, we might be able to discover the physiologic distortion.

Nor was this distortion far to seek. From the very infancy of physiology, experiments in the laboratory have been based upon the principle that currents sent along the nerves may cause remote dysfunctions—indeed, among the most common of experiments in the physiologic laboratory is the stimulation of some nerve, and the detection of remote dysfunctions engendered by the impulse or current sent along it. The distortion has been that physiologists have imagined that this principle applies only in the laboratory, where an artificial stimulus is applied, not supposing that, during the hazardous and fluctuating life history of the individual, the natural currents that motivate the functions of the organism must now and then escape out over the nerves in abnormal quantum, and engender dysfunctions throughout the realm of metazoan existence, no less than in the laboratory.

Physiology has long recognized that efferent impulses "motivate and stabilize the various physiologic functions" (Howell), and has further recognized the principle that dysfunction is only a quantitative phase of function.† Is any conclusion more inescapable than that efferent impulses, erstwhile motivating functions, must, when present in abnormal quantum, overmotivate, or undermotivate, and convert functions into dysfunctions? It seems little short of remarkable that physiology did not make the thought connection to apprehend that efferent impulses, in excess, must motivate dysfunctions, long before it was disclosed in the clinic. Indeed, it should have been expected that physiology should have suggested these inquiries to clinical medicine, instead of their being disclosed in the clinic by mere chance.

This principle of efferent currents in abnormal quantum motivating dysfunctions, as hard to see the first time, and as easy to see the second time, as a bird on her nest; so obvious from a physiologic standpoint and so inescapable in the clinic, is at the very center of the distortion we have been seeking. This distortion has involved not merely the principle itself, but has concealed from view the whole field of research comprised in these studies. The effect, indeed, of this distortion, as will be seen, has been, not merely to leave the facts here disclosed to come to light by chance, but, through this process, has robbed physiology itself of a valuable source of illumination. Could the clinic and the laboratory have gone hand in hand in physiologic research — could physiology have made the connection between efferent

*Personal communication from Dr. T. L. Patterson, professor of physiology, Detroit College of Medicine and Surgery.

†"A state of disease is never a thing in itself, but is always a quantitative change in some physiologic process—an increase or diminution of something that was there to begin with." Sir Arthur Lovatt Evans, in his address of the President, Section I, Physiology, British Association for the Advancement of Science, 1928.

currents and dysfunctions in natural existence, as well as in the laboratory, foreseeing these facts and demonstrating that the clinic offers possibilities of precision in research comparable to that of the laboratory—brilliant avail would long ago have been made of the light the clinic now throws upon the type of energy that motivates the animal organism.

Light From the Clinic

The clinic, an unforeseen and uninvited participant in the realm of physiologic research, has not stopped with the disclosure of the fact that nerve currents cause remote dysfunctions. Phenomena have been disclosed in the clinic which that principle alone is inadequate to explain. While that principle explains the arrest of sensory, motor, secretory, respiratory, circulatory and endocrine dysfunctions by the procedure of efferent interception, together with the attendant therapeutic gains, it does not explain the augmentation and even initiation of dysfunctions, proximal to the locus of interception, nor the phenomenon of detouring. In order to explain these, it is necessary to endow efferent currents with certain attributes not taught by physiology, among them, that they operate under a continuous but variable *current tension,* and that they are capable of causing trauma, minute but none the less real.

Summing up the present physiologic contributions of the clinic to pure science, the clinic has taught us that efferent currents, in excess quantum, may and do engender remote dysfunctions, not only in the laboratory, but amid the turbulent fluctuations of the living process throughout the life history of the organism, and that such efferent currents, in order to produce the effects observed, must be more than mere impulses, prompting functions—must be, indeed, energy, actually *motivating* the various functions, and capable both of overmotivating functions and of, themselves, engendering trauma, through the expenditure of their energy in the tissues. In other words, the clinic has opened to view the operation of current energy in the living organism upon a scale transcending the most mechanistic postulates of our present physiology.

In the light of this conception, a local pathologic change is, in part or in whole, the result of the discharge of efferent current energy into the tissues, the nature of the lesion produced depending upon the nature of the tissues victimized. Thus, an excess efferent current, or "pathologic current," discharged into the iris, produces iritis; into the conjunctiva, conjunctivitis; into the middle ear, otitis media; into the sciatic nerve, sciatica; in the heart, angina pectoris or some other circulatory dysfunction; into a muscle, chorea; into the secretory glands of the intestine, diarrhea; into the respiratory mechanism, asthma, cough, hiccup, and so on.

Therapeutic Application

The obvious therapeutic import of this conception is that the interception of such "pathologic currents" is tantamount to removing the actuating cause—the soundest of therapeutic principles—and is expected to yield the most striking results.

Such, indeed, is the universal testimony of all who have done any nasal ganglion work. More than that, however, the principle has repeatedly and successfully withstood the test of prophecy, by postulating results in untried situations. In every instance the results postulated have been obtained. For example, before it had ever been tried, it was postulated that certain cases of chorea would be found in which anesthetization of the nasal ganglion would give immediate and complete relief. This postulate was expressed to Sluder when I visited him, in 1925. It was only a little while afterwards that a case of chorea turned up which was found to be relievable at the left nasal ganglion. After several repetitions, the left ganglion was injected with alcohol, with the result that, from that day, the chorea was gone. This case was reported in *Archives of Otolaryngology,* nearly two years ago.

A few months ago, here in Detroit, Ryerson was confronted with the problem of enucleation of a diseased eye, lost on account of glaucoma, with lachrimation, at this time, beyond the point of tolerance. Guided by the theory of pathologic currents, but absolutely without any direct precedent, at my suggestion, he injected the ciliary ganglion with alcohol. Before the patient left the table, the excessive lachrimation had ceased, and within three days the eye was free from all sign of disease. The case was presented by Ryerson before the postgraduate clinic.

Hay-fever offers a particularly striking example of the test of prophecy. When Sluder, by anesthetization and injection of the nasal ganglia, cured hay-fever, he started something of great therapeutic importance. Some cases, but not all, however, were relievable in this way.

The theory of pathologic currents postulated that hay-fever is caused by excess currents registering in the sneeze region in the roof of the nose, and that the cure of the condition resolves itself into the interception of such incoming currents. This was what Sluder had done at the nasal ganglia. But in cases where he failed, there must be some alternative route. An examination of the anatomy revealed that the only alternative route possible was the nasal nerve. If the theory was sound, those cases of hay-fever that were not controllable by injecting the nasal ganglion, would be controlled by injecting the nasal nerve.

Injection of the Nasal Nerve

So far as I was able to find, the nasal nerve had never been injected. Having at that time, in Florida, no opportunities to do preliminary dissections, I threw the problem out to the profession, in an article under the title "Pathologic Currents and Hay-Fever," published in *American Medicine*, March, 1928, in which it was pointed out that whoever would work out a practical technic for injecting the nasal nerve would encompass the final control of hay-fever. No one responded, so a few months later I closed my office and came north, where I could have facilities to make the necessary dissections and to attack the problem myself.

At first the nasal nerve was injected in the anterior portion of the nose, where it dips down through the cribriform plate into the nasal chamber. This proved to be a most substantial supplement to the injection of the nasal ganglion, but at length cases were found which were not relieved by this procedure. Either the theory was breaking down, or there was a leak somewhere, by which currents were still reaching the sneeze region.

A careful dissection of the nasal nerve, from where it leaves the orbit, via the anterior ethmoidal foramen, following it through the ethmoid roof to the *crista galli*, and thence into the nose, now revealed, much to our surprise, many fine filaments given off in the three-quarters of an inch proximal to the point where these injections had been made. Evidently these filaments where the source of the leak. To inject proximal to these filaments it would be necessary to do so via the orbital route, and the injection of alcohol into the orbit seemed most daring. However, after careful dissection, measurements, and the establishment of land-marks, it was ventured to inject three minims of alcohol into the nerve as it enters the anterior ethmoidal foramen.

The results were most gratifying. The first surprise was that anesthesia was produced all over the half-forehead. For this the anatomies had poorly prepared us. Relief of hay-fever and rhinorrhea by this method has, so far, been quite uniform.

In conclusion, the clinic, as yet almost a virgin field for scientific research, has already effected substantial refinements in anatomy, assembled evidence tending to correct a distortion in physiology, and provided therapeutics with one of the most potent devices in its armamentarium. If the theory of pathologic currents, which, seen in its larger aspect, is the *hypothesis of current energy*, is to stand, the contributions of the clinic to science will extend, not only to anatomy, physiology, and therapeutics, but to the larger realm of biology.

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13.—The Nasal Ganglion or Switchboard Test, a Working Device. *M. J. and Record*, 1928.

Parathyroid Extract in Chorea

By Raymond G. Tuck, M.D., *Brown City, Mich.*

CHOREA was first clearly described in the year 1884, by Sydenham, and is one of the commonest diseases of childhood and adolescence.[1] There exists, among medical men, a great deal of misunderstanding as to the exact nature of the disease and its relationships are far from being understood. It is undoubtedly a condition where nervous instability exists. We see cases where a clear-cut history of fright and mental disturbance is given; then again, we run across them where no definite history can be obtained relative to such a cause. Everything, considered, chorea presents a troublesome problem to medical men and one in which results have been slow and unsatisfactory to all concerned.

Etiology

We all know that female patients are most frequently seen with this disorder, the ratio to males being three to one.[2] It is interesting to compare this incidence with that of goitre, which also occurs most frequently in females.

It seems that chorea occurs more frequently during the early spring months than at any other period of the year. Perhaps this is because these patients are indoors much of the time, in the winter, and do not receive so much ultraviolet energy and green vegetable diet as they do in the summer months. However, treatment with ultraviolet radiations failed to produce any appreciable results, in my hands. Diet alone does not seem to benefit them, either.

It has occurred to me that this disease is on the increase, but perhaps I have merely chanced to have more cases come under my observation than I saw a few years ago. It is a certainty that the young people of today are subjected to a much greater nervous tension than they were a decade or two ago, what with the thrillers in the movies, automobiles travelling at unheard-of speed and airplanes giving us new thrills every day. It would not be surprising to see this disease increase, if nervous tension is a causative factor. It would be extremely interesting to learn, from some of our older physicians, their observations along this line.

1.—Epedemics of the Middle Ages, Sydenham, 1884-87.

2.—*British Medical Journal*, 1887, p. 425, Vol. 1.

Treatment

Some time ago, parathyroid extract was called to my attention for the treatment of tetany and allied conditions. The older form of treatment having proven inadequate in so many cases, I decided to give this new extract a trial. I had tried Fowler's solution, diet, rest, absence from school, etc., with little to excite anyone, when results were summed up.

My experience with parathyroid extract alone was also far from being satisfactory; but I found that, by combining this with Fowler's solution, results were much more favorable—in fact, were rather striking. I have given from 5 to 8 drops (0.325 to 0.5 cc.) of Fowler's solution, three times a day, and three injections of 1/10 grain of parathyroid extract weekly.*

Case Reports

Case 1.—F. G., female, aged 15 years.

Past history negative, except that her mother stated that she had been very attentive to her school work. No focus of infection could be found on examination. Choreic movements began early in March and affected her right arm and side. Marked loss of appetite was noticed about this time.

Injections of parathyroid extract, given twice weekly, produced no results, even when combined with body irradiations from an ultraviolet lamp.

In the fourth week I included Fowler's solution, 5 minims (0.325 cc.), three times a day and increased the parathyroid injections to three times a week. In two weeks from this time all choreic movements stopped, her appetite improved and she appeared normal, to all appearances. In all, she received 10 injections of this extract. She has remained well and normal during the past year and a half.

Case 2.—M. Y., age 8 years, female.

Past history of septic tonsils and rheumatism with endocarditis, treated by another physician who removed her tonsils, about one month before she was brought to see me. She had been confined to bed for a period of six months and had improved somewhat following removal of the tonsils, especially the rheumatism and endocarditis. She exhibited marked choreic movements and could not walk unaided or stand alone. Her nurse carried her into the office, where an examination

*I have found the preparation marketed by the Swan-Myers Co., most satisfactory.

revealed the existance of a marked chorea. (This was also the diagnosis of the other physician).

The first injection was given on Monday, and Fowler's solution was prescribed, 5 minims (0.325 cc.), three times a day. On Wednesday she was brought to my office in a child's express wagon for another treatment. On Saturday, of the same week, this child walked more than two blocks to my office and I learned that she was eating much better and that the choreic movements were much less severe than before.

I gave her six injections of parathyroid extract in two weeks and the child returned to her home where her family physician gave her four more injections, at my request. He reports to me that child has completely recovered and she now attends school regularly. (Complete recovery in less than four weeks).

Case 3.— N. B., age, 16 years, female, came to see me with a diagnosis of chorea, made by another physician who had been treating her for several weeks, with no improvement. The general health of this girl had been good until about three months before I saw her.

I gave her three injections a week, for 10 doses, and Fowler's solution, as in the other cases. This young lady attended a dance after the third injection, with no ill effect, and continued to improve until she was discharged fully recovered.

Case 4.—E. C., age 16 years, female. History of not eating nor sleeping well and of coughing a great deal, with some blood-stained sputum. She had been injured while playing basket ball, about one month previous. She complains of nightmare and pronounced choreic movements—could not sit still during the examination.

The blood-stained sputum, with loss of weight and appetite, made me suspicious of a possible tuberculous infection of the lungs, so she was referred to a prominent tuberculosis sanatorium for an examination, which showed negative findings. The blood picture, sputum and urine were negative.

I started giving her parathyroid extract, with Fowler's solution, and one month later she had gained back her lost weight and was eating normally. No choreic movements were then noted.

This girl received 12 injections, three a week. She is attending high school and looking fine, physically, and has been warned against playing basket ball.

Case 5.— L. S., 15 years, female. Past history negative. Has been having jerky movements for about three months and cannot hold dishes in her hand without dropping them while eating. The tongue is so much affected that she cannot talk plainly and the eyes are focused with difficulty. She does not eat nor sleep normally, I started her on parathyroid extract and Fowler's slution, the same as in the other cases, but did not see any results after giving her ten injections.

This girl had not started to menstruate, so I decided to give her something which might bring on her menses. I had been informed that Estrogen was beneficial in such cases, so I tried it, with good results. She received three doses of this product and started flowing on the third day.

After this I again began giving parathyroid and Fowler's solution, with complete recovery noted after giving 12 injections. She is now attending high school, with no chorea noticed by her teacher or parents.

Cases 6-7-8.—All girls, with same symptoms and apparent results. Two now under treatment are free from choreic movements and have had six and four injections, respectively.

Case No. 8 has had but two treatments, and is a member of graduating class this spring. Her mother was afraid that she could not finish with her class. She reports that she feels better after two treatments and I advised her to continue in school and return to the office, three times weekly, for treatmnets.

Conclusions

(1).—Chorea is apparently increasing, and appears in a higher percentage of females than males; (2) parathyroid extract presents a safe and more rapid means of treatment than any so far advocated; (3) Fowler's solution seems to be a necessary adjunct to this form of therapy.

This report is merely a preliminary one and I hope to present a more detailed study later. A colleague reports a similar number of cases with the same method of treatment and with equally good results.

It would be decidedly interesting to know the exact picture of the blood chemistry of these patients, with reference to calcium content, a procedure which I was unable to attempt, owing to limited facilities. In all, it represents a gratifying method of treating this troublesome condition, because of the speed of recovery and the appreciation, on the part of both patient and parents. I have come to conclude that this method is far superior to any yet tried by myself or any others advocated to me by fellow physicians.

Science and Art

The physician moves amid mystery. He practices an art based on many sciences. A man may know them all and be a less skilful healer than one who, knowing them less well. is master of the art to which they increasingly contribute.—Dr. S. Weir Mitchell, in "Dr. North."

Generalized Tetanus*

Report of a Case, With Recovery

By Sam Herzikoff, M.D., *and* David H. Kling, M.D., *Los Angeles, Calif.*

THE PATIENT, B. G.; age 28; a Mexican, was injured on March 19, 1929, when he caught his right index finger in a "waste pulling" machine, sustaining a laceration such that a cap of tissue involving the distal two-thirds of the distal phalanx was pulled off the bone and was adherent to the finger only by a pedicle about one-fourth inch wide.

He was brought to this institution immediately after the injury. Under general anesthesia, debridement and the liberal use of antisepsis were employed. The wound was cleansed with ether and swabbed with iodine, followed by alcohol. The cap of tissue was pulled down over the bone and sutured, in an attempt to save the phalanx. The patient was permitted to leave the hospital the same day. He reported daily for dressings and apparently there was no infection and progress seemed to indicate that the phalanx would be saved.

Nine days after the injury, the patient reported at the hospital saying that he felt ill. He complained of uneasiness and of pain in the jaws, the back of the neck and the lumbodorsal regions. It was difficult for him to open his mouth. His temperature was 100°F., by mouth; pulse 85.

Tetanus was immediately suspected, the patient was put to bed in the hospital and 10,000 units of tetanus antitoxin were given intravenously and the same amount subcutaneously. Three hours later a lumbar puncture was made, 6 cc. of clear fluid withdrawn and 20,000 units of tetanus antitoxin were injected. Four hours later, 20,000 additional units were given, intraspinally. This was at 8:00 P. M.

At that time the sutures were removed, the wound further debrided, so as to leave a fresh, open stump, and smears and cultures were taken. The smears contained red blood cells, pus cells and gram-positive bacilli, some of them club-shaped and resembling *Bacillus tetani* morphologically. The cultures, under partially anaerobic conditions, in glucose agar, milk and broth, gave negative results during a period of six days.

Two hours after the last injection there was a severe convulsion. At midnight the temperature rose to 103°F., the pulse to 140, and the respirations to 36. The patient was extremely restless and perspired freely. He was quite rigid and could not take fluids by mouth. Adrenalin (epinephrin) and morphine were given.

The following morning the temperature had dropped to 96.4°, the pulse to 78 and the respirations to 20. The patient was unconscious and rigid. He was given 15,000 units of antitoxin, intravenously, at 8:00 A.M. At 12:00, noon, dextrose and saline solution were given. Catheterization was necessary. The patient remained unconscious.

The third day the temperature was 98.6° F.; pulse 80; respirations 18. The patient was given 25,000 units of antitoxin, intraspinally. The fluid drawn off before the injection of the antitoxin was cloudy and contained numerous pus cells, but was negative for bacteria. The second, third and fourth days the rigidity of the neck and jaw muscles was extreme; the back muscles were board-like; opisthotonos and the typical *risus sardonicus* were present.

On the fifth day, another 20,000 units of tetanus antitoxin were administered, intraspinally. The fluid withdrawn before injection was less cloudy and there was a cobweb-like structure, consisting of fibrin and pus cells, floating in the fluid.

The patient made a slow recovery, although his condition was much improved after the fifth day. On the eighth day he was given 10,000 units of antitoxin, intraspinally, and a like amount intramuscularly.

He was able to take fluids on the eighth day. The rigidity of the muscles gradually diminished, that in the jaw muscles being the last to disappear—it was still to some extent present, at the end of thirty-five days. The patient was able to return to work forty-five days after the onset of the symptoms.

During the progress of the generalized symptoms, the finger was kept in moist dressings saturated with peroxide of hydrogen and boric acid solution. Healing of the finger progressed satisfactorily and it was

*From the Golden State Hospital, Los Angeles.

entirely healed before the symptoms of tetanus had completely subsided.

Comment

1. Out of approximately 160,000 injury cases treated, from the onset of the disability, at this institution, the greater part of which were industrial cases, only one developed tetanus. This case did not receive a prophylactic injection of antitoxin, which shows that, even with a large experience, the indications for administration of the prophylactic injection can be overlooked.

2. The independence of the local reaction and systemic effect is brought out. No pathogenic bacteria other than the tetanus bacilli were found in smears or cultures taken from the site of the injury. While the toxic effects of the tetanus were developing the wound was healing. The end result was a finger of almost normal appearance, with no limitation of function. The purely toxic character of the tetanus infection, in contrast with the effects of other anaerobic bacteria such as *Bacillus welchii* or *Bacillus oedematiens* is emphasized. These latter do not cause severe toxic effects unless there is extensive tissue destruction.

3. One hundred thirty thousand (130,000) units of antitoxin were administered, of which 50,000 were given on the first day, 15,000 on the second day, 25,000 on the third day and 20,000 on both the fifth and eighth days.

A total of 70,000 units were given intraspinally, divided as follows: Twenty thousand (20,000) units each on the first, third and fifth days, counting from the onset of the symptoms, and 10,000 on the eighth day. Forty thousand (40,000) units were given intravenously and 20,000 subcutaneously, during the eight-day period.

A reaction, with a temperature of 103° F., pulse 140 and respirations 36, was noticed only on the first day of the treatment with serum. In six hours the temperature fell to 96.4°, the pulse to 78 and the respirations to 20. On the following days the temperature fluctuated between 97.2° and 99.6°.

After the first intraspinal injection an aseptic meningitis developed, as evidenced by the cloudy character of the spinal fluid and the presence of numerous pus cells. This was mild in character and transitory. At the next puncture the cloudiness was less and a fibrinous cobweb was evident. Four days later the fluid was quite clear.

4. Although we cannot hope for an immediate neutralization of the anchored toxins, nevertheless large doses of antitoxin seem to be indicated, both intraspinally and intravenously. It has been shown (E. W. Ponomarew—*Ztschr f. d. ges. exper. Med.*, 61, p. 93, 1928) that an increased intraspinal pressure decreases the rapidity of the flow of the toxins from the periphery to the spinal cord and delays the outbreak of symptoms. Therefore, it would seem desirable, contrary to general opinion, not to withdraw a volume of spinal fluid as large as that of antitoxin injected. The inflammatory reaction following the injection of antitoxin is of therapeutic value, in that it maintains an increased intraspinal pressure for a time.

5. The general reaction following use of the highly concentrated products now available is not severe and therefore does not offer a contraindication to the administration of large doses, unless there be definite disturbance of the circulatory system.

6. Consideration of the economic aspect emphasizes the value of the free use of prophylactic dosages in a wider scope of cases. The total cost, to the insurance company, of the treatment in our case amounted to approximately $750. Had the case proven fatal, the total cost would have approximated $7,000. The cost of one fatal case would more than pay for the administration of prophylaxis to 5,000 patients.

423 Towne Avenue.

Toward Happiness

Whenever you feel less happy than usual, eat less, sleep longer, exercise more, and find out whether something is worrying you. If this doesn't help, see a doctor.—Walter B. Pitkin.

Pessaries and Their Dangers

With a Report of a New Type

By J. S. RAUDENBUSH, M.D., *Philadelphia, Pa.*

IT IS unfortunate that conditions and circumstances prevail which necessitate the presence of a foreign body in the vagina, for, no matter what contrivance is utilized, *if it is constantly worn*, it will be a source of irritation with its inevitable sequelae, the two basic causes being constant pressure and the retention of acrid secretions.

In the statements in this article, it is taken for granted that the pessary is well-fitted; that pelvic contraindications do not exist; and that the perineum retains the instrument and has no painful scars.

Even so, in time, various objectionable symptoms will appear. Leukorrhea, at first simple in character, watery, mucous, mucopurulent and perhaps tinged with blood, will, in time, decompose and become irritating, toxic and malodorous, producing local and general irritability, local burning, itching and pain, with instances of actual bleeding. Tenesmus of the bladder and bowel have been reported in some patients, while others suffered from frequent micturition or constipation. These symptoms are evidences of such pathologic changes as are enumerated in this article.

IRRITATION AND INFLAMMATION

Irritations are probably the first of the effects produced. The tissues pressed upon by the pessary are stimulated mechanically and a trauma results. Every cell in this area becomes excited and active, in order to protect and repair, and we have positive chemotaxis, with phagocytosis—cells with properties to fight chemical agents and others having bactericidal powers, as well as others with karyokinetic activities, in order to build up destroyed tissues.

Inflammations are the direct continuation of the irritations from the instrument. Ribbert is quoted as saying that inflammation is the reaction of the organism against injurious agents. Cohnheim (Bryant & Buck's "Surgery") says: "The blood vessels permit the passage of blood elements; i.e., white cells, serous exudates and the diapedesis of red cells."

The usual, though not regular, evidences are: increased redness; swelling; heat; pain; disturbed function, with symptoms such as are mentioned. The mucous glands may be stimulated (free discharges) or checked (decrease or absence of discharge, which is a misfortune in inflammations). Tissue changes may be hypertrophic, atrophic, degenerative or, if microorganisms attack, there may be necrosis and pus. Any, or all, adjacent structures to the vagina may become involved and suffer inflammatory consequences such as follow:

ABRASIONS, EROSIONS AND EVERSIONS

Abrasions are rare in the mucous membranes, yet, in sensitive structures, friction and heat may cause exudation of serum, with consequent excoriation and, if the injury is prolonged, inflammations and ulcerations, with eventual fistula, may result. They will be found in the vagina or cervix, from ill-fitted internal pessaries or from immovable rings or cups, with stems held by tight straps; the latter variety produces raw surfaces externally, especially in the crotch, when discharges and perspiration are free.

Erosions and Eversions. Many insist that the former inflammatory conditions do not prevail and that what were considered as such were eversions instead, but it will be seen that both conditions exist and neither term can be applied to both.

Erosions were formerly believed to be due to "eating off" of the cervical epithelium by retained secretions; but Cullen, Robert Myer and others claim that irritating discharges may cause the loss of stratified epithelium for a short time only—a "temporary erosion," which is rarely observed, for the denuded area rapidly becomes covered by a layer of columnar cells with the underlying capillaries showing red, which causes a dark-pink appearance; these columnar cells grow down from the cervical canal and surround the external os for a centimeter or more, and this is called an "eversion" (Dean Lewis, "Surgery-Gynecology," Vol. X).

While some declare that there are no erosions, but that all are eversions, I have

found that, by proper local treatment, the irritated areas disappeared and a smooth cervix was restored (the columnar epithelium which had grown down from the cervical endometrium was destroyed and the area again covered by squamous epithelium).

Martzloff, in the last-named volume, says, "True erosions of the cervix do occur, but are rare, except when associated with recent mechanical injury; an erosion shows the loss of surface epithelium, which is generally replaced by a thin, necrotic membrane; beneath this is typical granulation tissue, composed of small capillaries, immature fibroblasts and round-cell infiltration; bleeding occurs readily from such areas and it is probably from these lesions that small granulation-tissue tumors of the cervix take their origin." He says of "eversions" of the lips, that minute mucosal defects are not infrequent, that they are superficial, have no over-lying necrotic membrane and that it is the underlying stromal capillaries that give rise to pin-point areas of hemorrhage.

I can well understand how eversions may result from mechanical injuries from pessaries, especially in lacerated cervices.

Ulcers, Fistulas, Lacerations and Cancer

Ulcerations occur in the process of inflammation, in some few cases, and imply a deeper destruction of cells than either abrasions or erosions, appearing from the combined action of the trauma and its resultant harbored secretions. They come about by the tissues, circulation and lymphatics being injured to such an extent that there is suppuration and necrosis, with minute, superficial portions of the tissues thrown off—they are "open abscesses."

Fistulas are probably rare, so far as constant pressure from pessaries is concerned, whether they are normally placed, ill-fitting or have come out of proper position; nevertheless, they do occur. Devitalizing of tissues and ulcerations may cause extension of destruction until the bladder or rectum is reached. The late E. E. Montgomery warned against the breaking of glass pessaries when removing them, because of the danger of possible fistulas.

Adhesions have been found in the vagina and inflamed pelvic areas, when the resultant irritations were especially violent.

Contractions, Stenoses and Atresia have been observed by others. Narrowing has been noticed by the writer, but he found the patients were far advanced in years and consequently doubted that pessaries were the only cause.

Atrophies are referred to in the literature.

Degenerations have been noticed as a result of pessary trauma.

Hypertrophies frequently result in all the tissues around the pessary, especially in the cervix, uterus, vagina and pelvic structures.

Dilatations. If the instruments are too big, enlargements of the vagina are inevitable. They are frequently noticed in those who are weak, advanced in years and have flabby tissues. In such, larger pessaries have to replace former ones and these still further increase the dilatations. In the aged this is a very discouraging feature, for both patient and doctor.

Uterine flexions are almost constant complications, where narrow-barred pessaries are applied for a long time, and the flexions are far worse than were the simple displacements.

Strangulations of cervices. Older writers mention these in cases where the Mayer-spring or ring pessaries were worn.

Embedding of pessaries. Not only do we have these occurrences, but even actual encapsulation by the tissues, which become cancerous. These terrible findings drove me in search of instruments that would not bring about their existence. The narrower the bars, the longer the retention and nastier the secretions, the more apt are these embeddings to occur.

Lacerations. Skene, in his 1893 edition of "Diseases of Women," gives apt illustrations of the mechanism of lacerations by the use of pessaries with intrauterine stems, whether they occur through the uterine wall or lower down, through the cervix. Previously flexed uteri, held by immovable stems, will contract with tremendous force when stimulated by a curettage and such drugs as ergot and pituitrin.

Cancer occurs only in abnormal tissues and in areas of trauma. Hard pessaries are apt to be a cause, whether they are annular or spherical and whether they have intrauterine or vaginal stems. Narrow-barred pessaries, such as the ring, Smith-Hodge or even the Menge, are special offenders; but even if globular ones were *constantly worn* they would corrode and cause danger of

cancer. The soft varieties of the instrument absorb secretions, become very offensive and, by continued (though lighter) pressure, combined with the very irritating discharges, also become a real danger in this direction.

The structures that become injured are the perineum, anus and rectum, urethra and bladder, vulva, vagina, cervix, uterus and tubes, cellular tissues and peritoneum.

A Satisfactory, Removable Pessary

In spite of this formidable array of consequences, conditions and circumstances prevail which necessitate the presence of a foreign body in the vagina. Therefore, the wearing of some instrument being unavoidable and the conditions described being inevitable by the use of the pessaries on the market, the problem was, what could be done to prevent these injuries?

After trying the various makes, it became very evident that, no matter what was worn, *if worn constantly*, the sequelae described were sure to occur and that, to avoid them, the best thing for the patient was a *contrivance which she could, herself, remove on retiring at night and replace on getting up in the morning.* In this way the vagina would have no foreign body for practically one third of the time and the two basic causes of trouble—constant pressure and retained acrid secretions—would be very largely removed, it being proper, of course, to douche after its removal at night.

It was also evident that, the broader the surface for the tissues to rest upon (a globe instead of a ring), the less were the injuries; but the fact remained that a constantly-worn globe would also produce trauma, and unless the material were glass, it would become corroded, etc. Furthermore, it was also clearly seen by these tests that there must be no protruding vaginal stem with apertures on the external portion for tape or straps, for the stems often bruised the vagino-perineal tissues, the apertures and straps harbored stale, offensive and irritating discharges, so that the external parts became chafed and excoriated and, in some cases, the straps (as when worn with belts) have interfered with the venous circulation and produced hemorrhoids.

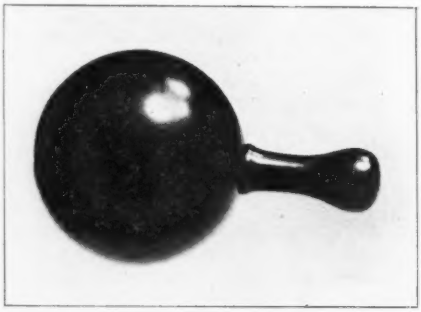


Fig. 1.—Globe Vaginal Pessary, with Short Vaginal Stem to Facilitate Removal by the Patient.

In order to meet the prophylactic requirements, that the patient could remove and replace the instrument herself, three things were necessary: (1) that it had a broad surface for the tissues; (2) no external protrusion; and (3) an attachment without apertures or crevices for the patient to grasp in its removal and reintroduction. I could not find such an instrument and consequently devised a globe (ball) with a smoothly-attached, short vaginal stem.* (See Fig. 1.)

It must be emphasized that the indications and contraindications for this pessary are the same as for all others and that skill and patience are required in its proper application. It must not be so large as to cause pain nor so small as to drop out. The woman, likewise, must have patience and not become tired of these frequent performances, if she would avoid the serious consequences mentioned in this article.

Dr. Pfahler, in a recent issue of the *Medical Searchlight*, in "How Can Cancer be Prevented?" said that cancer never begins in healthy or normal tissue and that if patients and physicians would do everything possible to make all tissues healthy, many cancers would surely be prevented. I wish, in conclusion, to emphasize that by *avoiding the constant wearing* of pessaries we have one means of keeping tissues healthy and preventing malignant disease.

3633 N. Fifteenth St.

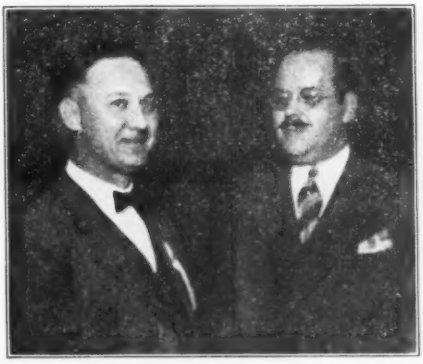
*This instrument is male by the Physicians' Supply Co., Philadelphia.

Notes from the Congress on Physical Therapy

Reported by GEORGE B. LAKE, M.D., *Chicago*

THE American College of Physical Therapy has been a powerful factor in the development of this branch of therapeutics, and its meetings are becoming more and more important occasions in the medical world.

The session which was held during the first week in November, 1929, included many interesting features, prominent among which (as regarded the papers) were the facts that the combination of physical agencies with other methods of treatment was stressed more than on former occasions, and that more of the philosophy, as compared with details of technic, was in evidence. The attendance was good and much interest was shown in the clinics and scientific sessions. Abstracts of a number of the papers and discussions are presented herewith.



Officers of the Congress
Left: Dr. Roy W. Fouts, Omaha, Neb. (President-Elect).
Right: Dr. Norman E. Titus, New York City (President)

The business sessions resulted in the substitution of the word *Congress* for "College" in the name of the organization, and in the selection of Dr. Roy W. Fouts, of Omaha, Nebraska, as President-Elect. Dr. Norman Titus, of New York City, assumed the presidency of the Congress at this meeting. The next session will be held at St. Louis, Mo., in the autumn of 1930.

THE COMMERCIAL EXHIBIT

The commercial exhibit offered few really new suggestions, most of the developments being in the line of simpler, more powerful or more elegant apparatus.

The shows, as well as the markets, are flooded, just now, with carbon arc lamps and mechanical vibro-massage machines, many of which have the appearance of being rather unsubstantial. The physician who is contemplating the purchase of such a piece of apparatus would do well to scrutinize the various types offered for his inspection very carefully and to seek the advice of the Council on Physical Therapy of the American Medical Association. This, in a general way, is a good plan in connection with any physical therapy apparatus.

In the field of ultraviolet radiation, the last year has seen the appearance of one, and possibly more, lamps of the globe or incandescent type, which produce a therapeutically valuable quantity of both ultraviolet and infrared rays. These are, however, in all probability, more suited to home treatment than for hospital use, for the well-equipped physical therapy department will have both quartz-mercury and powerful carbon arc machines for generating the chemical rays.

Infrared radiation has been attracting more attention of late than heretofore, and at this meeting was shown, for the first time, I believe, an interesting apparatus for applying these rays directly and under full control, to the perineum and lower pelvic region, for the treatment of diseases of the rectum, prostate and female generative organs. There was also a good exhibit of the bulb-type infrared generators. Besides these matters, a new apparatus was shown for applying medicaments by the electric ionization method.

Diathermy in Pneumonia

By F. B. Freeland, M.D., Portland, Ore.

No reasonable physical therapist will claim any *specific* effect for diathermy in pneumonia; but it *does* increase the body's powers of resistance and cause clinical improvement, especially in early cases, in which the disease may be aborted by the prompt and thorough use of this agency.

In influenzal pneumonia, which is an infiltrative, rather than an exudative, process, and in late, toxic cases of the lobar type, the use of diathermy through the affected lung is not without definite danger. In such conditions it is better to apply it through the sound lung or, if the process is bilateral, through some remote part.

The use of diathermy does not preclude nor supplant the use of digitalis, oxygen, serums or any other remedy which may be indicated, but it is a useful adjuvant.

Discussion

By Adolph A. Lilien, M.D., New York City

We do not know that diathermy shortens a case of pneumonia, but it *does* shorten the acute stage and prevent most of the complications and it may be used in the patient's home, with ordinary home nursing, and give good results and a low mortality.

The *contraindications* to the use of diathermy in pneumonia are: empyema, lung abscess and cardiac decompensation.

The electrodes used should not be larger than the size of the area involved and the current should not exceed 60 to 70 milliamperes per square inch of surface of the active electrode. Treatments should be given 3 or 4 times in 24 hours and last from 30 to 40 minutes each.

The *sweating* which follows a diathermy treatment is important and should be encouraged by covering the patient warmly and removing the electrodes carefully, to avoid chilling the skin.

Adjuvant treatment is important and should be used as indicated. Pressnitz compresses are often helpful, and so are deep radiant heat-light treatments. Infrared treatments relieve pleural pain.

The popular ideas of the open-air treatment of pneumonia need revision. Fresh air, when warm, is fine; but when cold and damp it is dangerous, as it checks perspiration. In many cases, the oxygen tent is better, when available.

Medical vs. Surgical Treatment in Renal Tuberculosis

By Albert M. Crance, M.D., Geneva, N. Y.

The routine use of "cystitis tablets" deprives many patients of an accurate urologic diagnosis.

Renal tuberculosis is a disease quite distinct from pulmonary tuberculosis and by no means always associated with it. The infection generally enters by the mouth, through the medium of *raw milk*. There are no definite, *early* symptoms (frequency and hematuria are *late* symptoms) and a diagnosis depends upon rigid, *routine* urologic examinations. All patients showing pus in their urine should be considered tuberculous until the contrary has been proved by careful study and a culture test on guinea pigs.

Pyelography is *dangerous* in renal tuberculosis, which is usually actively or potentially bilateral; and when this is actually the case, the removal of one kidney, especially if it is not seriously diseased, is inexcusable. Of course, if one kidney is totally destroyed and a source of toxemia, it should be drained or removed.

Renal tuberculosis is a *medical* disease, and the best treatment is by means of *ultraviolet rays*, as free as possible from infrared rays. This means that a quartz-mercury lamp must be used, and that sunshine or the output from a carbon arc lamp is unsuitable. Supplementary measures intended to increase the general resistance, such as cod-liver oil, rest, etc., are always indicated.

Ultraviolet Therapy in Infancy

By Heyworth N. Sanford, M.D., Chicago, Ill.

Short exposures of newborn infants to ultraviolet rays increase the bleeding time, the blood platelets, the hemoglobin and red cells (slightly) and the leukocytes, especially the lymphocytes. The older white cells are destroyed, so this measure should be used with caution if infection is present.

Ultraviolet irradiations should be useful in hemorrhagic diseases of the newborn, where the platelets are decreased in number; but the coagulation time must be shortened by other measures.

Treatments should be given with a mercury-vapor quartz lamp, at a distance of thirty (30) inches, beginning with one

minute, front and back, and increasing one minute each day for *four days*: Then stop!

Physical Therapy in Dermatology

By Walter J. Highman, M.D., New York City

The modern dermatologist must be something of a physical therapist, because radiant energy is now so widely used in that specialty.

The x-rays are more useful than are all other measures in treating the skin, but they must be used intelligently, by a *genuine clinician*. The possession of an x-ray machine does not automatically confer the power to use it wisely. If physicians permit machines to run away with them, their minds will atrophy.

X-rays are the leading treatment in acne and lymphatic infiltrations and for temporary (*not* permanent) epilation. They are *contraindicated* in telangiectases.

Chronic Arthritis

By N. J. Seybold, M.D., Toledo, Ohio

Amiodoxyl benzoate shows 60 percent of favorable results in arthritis. Salicylates should *not* be given with this drug, as they may cause severe reactions.

Thyroid substance, in small doses, over long periods, often helps, even if the basal metabolic rate is not raised by the treatment.

Intramuscular injections of sterile *seawater*—500 to 1,000 cc., once a week—sometimes show results in severe cases.

Do not be too ready to remove the teeth and tonsils in these cases. The results of such operations are not always brilliant, and when they fail the patient will never forgive the physician.

In **menopausal arthritis** there is stiffness in the knees when climbing or walking. Crepitation is common, but deformity is rare. The administration of thyroid and ovarian substance is frequently helpful; also the iodides, intravenously, and analgesics like *neocinchophen*. Hot cabinet and tub baths are of value; and also autocondensation, if the blood pressure is high.

Obesity

By Maximilian Kern, M.D., Chicago, Ill.

Obesity is the taking on of fat, *to the extent that it causes symptoms.*

The endocrines are involved in *all* cases of obesity. If a person overeats it will affect his blood-sugar level, and this will, in turn, affect the pituitary. A patient complained that he had gained 40 pounds in 18 months and, *incidentally*, that his vision was failing. He was found to have pituitary disease and will probably become entirely blind. *Sudden* obesity always requires careful attention, as some *disease* is present.

A patient may gain weight on a diet of less than 1,000 calories, and develop acidosis from starvation. We must study the familial tendency, the blood-sugar level and the endocrines. No *true* obesity can be cured by diet alone.

Discussion

By Victor E. Levine, M.D., Omaha, Nebr.

Improper diet is an important factor in injuring the endocrines. A very low diet may cause pernicious effects. We eat much less than people did fifty years ago, but obesity is a more pressing problem. That may be because hyperactivity often causes fatigue of the endocrines.

As exercise is too often prescribed in obesity, it is nothing but foolishness. The proper treatment of this condition requires careful study and the entire reorganization of the patient's life.

By James H. Hutton, M.D., Chicago, Ill.

Physicians are interested in obesity only as it affects the health; not in its cosmetic aspects.

"The stomach is the greatest liar in the world." People who have done very heavy work, requiring a high caloric intake, and then enter upon a sedentary life, often continue to eat heavily, solely from habit.

Insulin tends to take sugar out of the blood and store it somewhere. Pituitary obesity shows a high carbohydrate tolerance and low blood-sugar. Pituitary extract, given hypodermically, changes this picture somewhat and causes a loss of weight.

The Relation of the Physical Therapy Department to the Hospital Staff

By J. Severy Hibben, M.D., Pasadena, Calif.

Physicians have seen remedies of all sorts and descriptions come and go—they have encountered many therapeutic fads and fallacies—and are chary of taking hold of physical therapy at all vigorously, until they are convinced that it has a permanent place in their armamentarium.

These men must be given (gently) some basic education in the subject and led on to its further consideration by conservative and reasonable statements.

Many doctors, who would not think of employing untrained help in the operating room, seem to feel that almost anyone will do to work in the physical therapy department. There is no logic in this attitude. Technicians for this work should be on a high standard, like that of the nurse.

If the physical therapy department is to take its rightful place in the hospital, it should have at its head a thoroughly-trained, competent, full-time physician, who is *not in outside practice* (so as to disarm possibile suspicion of his motives), and he should receive a good salary.

The other members of the staff should then be encouraged to *bring* their patients to this department and explain the cases to its head, who will then explain to them the scientific basis of the physical measures which are to be applied. In this manner the cooperation of the staff can be secured.

As soon as the staff men understand the principles of physical therapy, they should refer their cases, fully worked up and with the diagnosis, hospital records *and a prescription,* to the physical therapy department. These prescriptions should then be altered only after consultation with the attending physician and, when the indicated treatment has been given, the patient should be sent back, with a specific notation of what has been done, to the man who referred him.

Discussion

By Edward N. Kime, M.D., Indiana University, Indianapolis, Ind.

The teacher of physical therapy must first orient himself thoroughly in the work, and then pass on what he has learned to others. He must keep a broad outlook, with an eye constantly upon the fundamentals, and not become narrow, over-sanguine or over-specialized.

A course in "Physical Therapy Appreciation" should be among the required subjects in all medical schools and should include a minimum of theory and a maximum of practice. It should be given in the senior year and carried on, under competent direction, through the intern year.

Physical therapy is not yet a specialty in medicine, but is indicated in connection with all other methods of treatment.

By J. E. G. Waddington, M.D., Detroit, Mich.

Physical therapy can be used, more or less, by all physicians whatever their line of work; but there is a definite place for the *specialist* in physical therapy, *particularly in hospitals.*

Six weeks of intensive instruction, given to an *intelligent person,* will do much toward making him (or her) a sound, practical physical therapy *technician,* capable of working satisfactorily under competent direction; but it will certainly *not* qualify any men or women to set themselves up as *drugless healers.*

By F. W. Ewerhardt, M.D., St. Louis, Mo.

Physical therapy can not, as yet, in my opinion,, be considered as coordinate with medicine and surgery in the field of therapeutics. It is, however, a valuable *adjunct* to both of these branches of the healing art.

Many physicians would like to make physical therapy technicians of their office girls overnight, but such an attempt can result in nothing but dissatisfaction or disaster. Unless the young woman is a graduate nurse or has had two years of physical education, a full year of instruction will be needed to make her a competent technician.

MUSCLE REEDUCATION

By John S. Coulter, M.D., Chicago, Ill.

Nothing will develop the strength of a muscle except *voluntary* motion. Muscle reeducation is an effort to drive a motor impulse from the brain to a muscle.

All physicians should be able to write a *prescription* for exercises, as accurately and certainly as they write for drugs. We would not send a patient to a pharmacist with a prescription for "some calomel." We would state the exact dose and frequency of repetition.

To prescribe exercises intelligently, one must know anatomy thoroughly and understand the use of splints. Then exercise of the proper type can be alternated with complete, physiologic rest.

For example, many think of the biceps as the flexor of the forearm, when its main function is that of *supination,* the principal flexor being the brachialis anticus. In median nerve paralysis we should splint the wrist with the fingers in *flexion* and the thumb in *adduction,* so as to rest the affected muscles.

For muscle reeducation, we must assign *one* function to a muscle and work to that, eliminating weight and friction as much as possible. When working on the deltoid, the patient should lie on his back on a bed, and the arm should rest on a smooth paper, sprinkled with talcum powder. Exercises with the limb supported in water are helpful in certain cases. We should strive to develop even minimum degrees of motion.

For this type of treatment, the patient must be in a quiet room, with *nothing* to distract the attention, for he must give his entire and concentrated effort to the job in hand. For children we should devise games which will call the affected muscles into play, thus bringing *interest* to our assistance.

Discussion

By Norman Titus, M.D., New York City

In infantile paralysis, keep up the tone and irritability of the muscle and minimize atrophy by the use of electric stimulation with the interrupted galvanic current. The patient will then be in better condition to profit by muscle reeducaion when the proper time comes.

For this purpose, the *maximum* current to be used, on the paralyzed side, is the *minimum* stimulus which will produce motion on the sound side. We must be careful to *avoid fatigue* by electric stimulation. Rest is very important.

The Clinical Study of the Arterial Pulse

By Daniel R. Barr, M.D., *Grand Rapids, Ohio*

THE clinical study of the arterial pulse involves a consideration of the pressure, certain points in the configuration of the wave, the rate, rhythm, amplitude and the behavior of the artery during various degrees of extraarterial compression. Because of the fleeting nature of these changes, they are only completely interpretable when automatically recorded as a graph. This, until recently, has not been possible, at least as a part of clinical routine, but modern developments in the field now make the **sphygmotonogram,** or curve traced by the artery from zero extraarterial compression to complete obliteration of the lumen, available, even at the bedside of the patient.

Of the family of curves derivable from the circulation — the polygram, electrocardiagram and sphygmotonogram—the last is probably of the most value clinically, because of its ease of preparation, fidelity to the actual phenomenon and the character of information which it conveys. While it does not analyze the individual wave with the precision of the polygraph (optical polygraph) nor record the definite anatomic site of a lesion or give information on the myocardial potentials, as does the electrocardiagram, it does allow us to determine definitely the rate, much of the rhythm, a great deal of the amplitude and, what is of paramount importance in suspected disease, the arterial tension. This latter is determinable, with an accuracy comparable to other procedures of the laboratory and clinic, only by means of the sphygmotonogram, which is the curve considered in this article.

In examing a curve, the first thing is to determine exactly the magnitude of the diastolic and systolic pressure. Upon this rests almost the entire interpretation of the curve. Curves traced by different forms of recording sphygmomanometers have different criteria for these points, but whatever is taken as the configuration representing them, they should be accurately located and read. The question as to just how precise and consistent this reading can be made, and what is its relation to the readings made from the classic Korotkoff sound sequence, is an important one and is not yet entirely settled, but opinion seems to be hardening in the direction of favor of the graphic method.

Fig. 1.—Hemiplegia: Upper Chart, Unaffected Arm; Sys., 128; Diast., 88; Amplitude, 5 degrees; Lower Chart, Same Patient, Paralyzed Arm: Syst., 127; Diast., 85; Amplitude, 1 degree.

Probably too much reliance has been placed on the auscultatory method as an index of the pressure levels in the artery, and not enough weight given to the fact that it is influenced, in a great degree, by many outside factors. A tourniquet placed on the arm gives very feeble sounds through the stethoscope or, in many cases, no sounds at all. As noted by Gittings, the sounds are enhanced by the sonorous quality of the bag, and this may vary.

Another source of error is the occurrence of the socalled "auscultatory gap," or complete failure of the sounds at a point between the diastolic and systolic pressure levels. (White and Mudd; Gibson, Tixier et al.) It is to be noted, however, that the oscillation of the artery wall continues without change through this gap in sound production. It is thus not a source of error in the graphic method. The personal equation of the examiner is not considered here. However, it is generally agreed that the auscultatory method has been of inestimable service and that it will always be used, especially in the field, though admittedly not the most precise procedure. The character of the sounds heard below the cuff has never been shown to have diagnostic value.

Amplitude

Pulses from different patients, or even from the same patient at different times, will be found to vary markedly in the height of the individual wave (highest wave) and in the general configuration of the curve touching all of the waves. In other words, there is a difference in the amplitude of the wave. This is very significant and should be studied with great care. It depends on a number of factors, each of which must be given consideration and evaluated separately, as far as is possible, and checked against the other findings in the picture.

Most important of these factors influencing the amplitude of the pulse wave are: the peripheral resistance (diastolic pressure), rate of the heart, tonus of the artery, organic character of the arterial wall at the site of compression and probably, to a lesser extent, remote changes in the vascular system and the filling of the arteries. There is also a tidal ebb and flow to the waves, thought to be associated with respiration. A variation in any of these will have a definite and characteristic effect on the amplitude.

In my experience, changes in cardiac input and peripheral resistance will cause a greater change in the amplitude than will any other factors. The greater the peripheral resistance, the lower the amplitude, other things being equal. (See Fig. 2). A tortuous, easily-palpable artery will tend to reduce the size of the wave in its vertical component. Tonus is more variable, but tends also to reduce the height of the wave, if increased; but there seems to be a greater disparity in the height of successive series of waves.

A factor increasing the amplitude is the rapid output of the ventricle when hypertrophied. This probably explains the large spikes sometimes seen in hypertensive heart disease, with high diastolic pressures, as long as compensation is good. Probably the actual output is but little increased.

Rhythm

The sphygmotonogram can tell us much about the arrhythmias, but the limitations of the method must be borne in mind: It is a mechanical curve, responding to pressure changes in the ventricle only. Nothing is shown of the auricle beat, as in the usual application of the polygraph, so that transmission time is not available. Not all

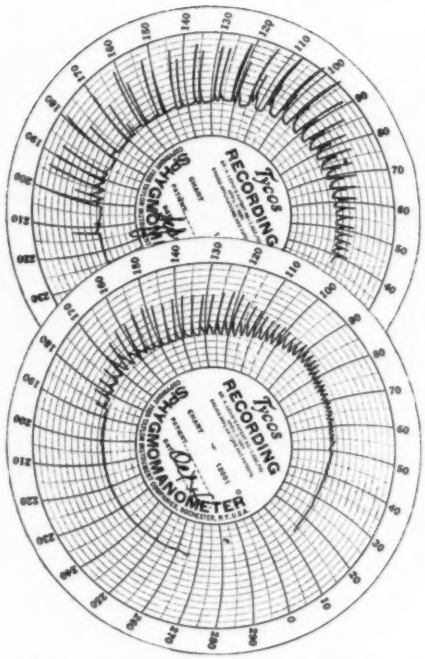


Fig. 2.—Charts Showing Decreased Amplitude of Pulse, following Rise in Diastolic Pressure—also Change in Rhythm. Upper Chart: Syst., 212; Diastol., 82; Amplitude, 11 degrees. Lower Chart; (14 days later) Syst., 186; Diastol., 109; Amplitude, 7 degrees. (Note increased peripheral resistance, regularity and low amplitude). The Diastolic Pressure is Pathologically High and the Prognosis Poor. (Courtesy of Dr. W. W. Battey).

electric potential changes in the heart muscle have a characteristic mechanical response in the peripheral arterial pulse.

A change in rhythm which is frequently seen is the **premature ventricular systole**—the socalled "dropped beat." This is the result of a contraction occurring in the ventricle, in response to a stimulus arising, ectopically, sometime during diastole. The next normal stimulus reaching it from the sinus will be received during the refractory phase of the ventricle, which will not respond until the next impulse reaches it. Thus the time will equal very nearly two beats, but there will be a definite pause. This electric picture gives little information on the mechanical pulse which, however, is characteristic: The premature beat will appear as a small wave following the normal beat; there will be a longer pause; and, due to the drop in peripheral resistance and, no doubt, to the better diastolic filling, the next wave will be very much higher. These magnitudes will vary with the position of the premature beat in the cycle.

The **auricular premature beat** will appear much as described, but the time interval will usually be less than two normal beats. There may be conflicting changes in potential tending to mask this phenomenon, so several curves should be traced.

The **sinus arrhythmias** show clearly as a lengthening and shortening between beats, many times in accordance with the respiratory wave.

Failure of the auricular impulses to reach the ventricle results in a slow rate and, when this occurs, block should be suspected. Various grades of **heart block** may be studied, at times, by palpating the supraclavicular space and determining the auricular rate roughly, while watching the beat of the recording sphygmomanometer.

Auricular fibrillation shows characteristically, with differences of rate and force and with no predominant rhythm. Auricular flutter does not have a characteristic peripheral pulse, and the same is true of coronary disease.

Pulsus alternans is a finding of the gravest import and one that should always be recognized when present. While it does not have an identifying electric counterpart, it is easily diagnosed from the sphygmotonogram by the characteristic alternation of height of the waves. While it may be simulated by a premature ventricular beat, occurring late in the cycle, it has been my experience that the premature beat is not effective in the upper pressures of the sphygmotonogram; i. e., it does not appear as a wave, while the deficient beat in pulsus alternans nearly always so appears. Pulsus alternans tends to persist, while premature systole is, many times, of a fleeting character.

Form

Pulse form is definitely not within the province of the sphygmotonogram. In the first place, all devices, designed to record the actual configuration of the pulse wave, which use levers and writing points, have been shown to be notoriously inadequate, as the period of the lever is very much too slow to follow the changes in the pulse. To overcome this, Frank, of Germany, and Wiggers, of this country, have designed small tubes with a flattened side, over which is stretched very thin rubber dam attached to which is a tiny mirror tending to revolve about its axis (which coincides with the

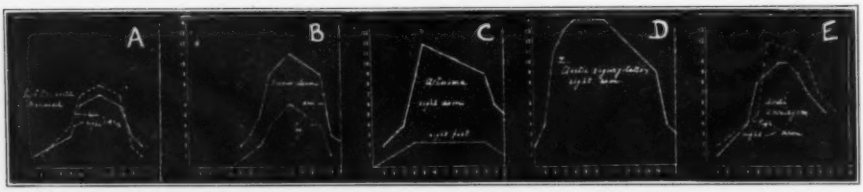


Fig. 3.—Oscillograms (after Finck): A. Syphilitic Aortitis (solid curve, right arm; dotted, left); B. Arm and Leg in Arteriosclerosis (arm, above; leg, below); C. Arm (above) and Leg (below) in Atheroma; D. Right Arm, in Aortic Regurgitation; E. Aortic Aneurism (solid curve, right arm; dotted, left).

flattened part of the tube) and reflecting a beam of light to a photokymograph.

Pulse form gave a great deal of information not otherwise available before the advent of the sphygmomanometer, and such men as MacKenzie, Price and others derived a great deal of clinical information from it; but it is no longer of much value in the study of the patient, although it has an absolutely essential place in physiology.

There are, however, a few characteristic forms of the pulse wave that can be recognized from the curve traced by the recording sphygmomanometer. Most typical of these is the Corrigan or "water hammer" pulse, frequently found associated with aortic regurgitation. It is too well known to need much description—vertical waves very steep and of considerable amplitude. The *pulsus tardus* of aortic stenosis is also generally recognizable by its low wave and considerable spread.

Oscillograms

Some years ago, Finck, of Vittel, began studying the curve made by plotting the amplitude of the individual pulse waves against the pressure in the sleeve at that particular time. The amplitude was observed from the excursion of the needle in indicating instruments. This method seems to have considerable merit and to furnish much aid in the differential diagnosis of several vascular diseases. The fact that different instruments would give different absolute amplitudes does not nullify the findings, as it is the relation of one magnitude to the other and the pressure reading, which is the same for all instruments, that gives the information. (See Fig. 3).

It is readily seen that the upper member of the envelope of the curve traced by the recording sphygmomanometer is essentially the curve studied by Finck—the oscillogram, he has termed it. This is similar to the work done by Berger and Samuels, in this country, on peripheral arterial disease. In all recording apparatus, however, there is a tendency for the base line to become elevated, due to tambour leak differences, so that the appearance of the upper member of the envelope is deceptive. When the oscillogram is plotted from the sphygmotonogram, the latter becomes corrected and, being measured at leisure, it represents much greater accuracy than can be secured from the indicating instruments, as the motion of the needle is so rapid that it is difficult for the eye to follow it.

Finck not only plots the oscillogram from the arm, but also from the thigh and even the fingers. From the variations in these he makes differential diagnoses with considerable accuracy. He further makes curves after baths and the administration of various drugs.

He makes the following deductions from his curves:

"With the same pressure, oscillations are higher on the right than on the left, so that the curve taken on the right limb covers the curve of the left limb, especially in the upper limbs. It seems rational enough to ascribe this difference to the anatomic disposition of the arch of the aorta and of the large vessels which start from it, as well as to the disposition of the iliac arteries at their origin, the left one reaching lower down than the right . . . . . The height of the maximal oscillation is proportional to the caliber of the examined artery. The highest curve is given by the femoral artery. . . . The height of the oscillogram of women is, for the same pressure, generally lower than is the case with men."

This he attributes to the greater amount of adipose tissue in women.

The modification of the oscillogram, either in general shape or in the relation between the curves from the various limbs, he regards as characteristic of certain diseases. In plethoric individuals with hypertension, the curve is of normal shape, with a more or less high elevation of the blood pressure. In atheromatous patients, it has a large base, great height and a steep anterior slope. Over the legs, the amplitude is very small. In arteriosclerotic patients, in the arm, the minimum tension is gen-

erally higher and maximum tension lower than with atheromatous patients. The oscillogram has greater amplitude in arteriosclerosis than in atheromatous patients. The shape is easily modified, in arteriosclerotic cases, by vasoconstrictors, but less than by the use of vasodilators.

Hypertension due to a peripheral vascular hypertonicity or to an arterial spasm resulting from a hyperfunctioning of the sympathetic, gives an oscillogram, in the arm, "marked by a rapid rise of the portion corresponding to the small, infra-minimal oscillations and by the sudden appearance of a large oscillation, followed by several others still larger, which bring the curve to its maximum height, and finally to a descent almost symmetrical with the ascent. When taken at the periphery, the curve presents the general characteristics of those taken at the arm, but the height of the maximum oscillation is very small. The difference between heights of the central and peripheral curves is so great that it can lead one to think it is a case of atheroma. After a hot bath or an inhalation of amyl nitrite, the curve taken at the arm becomes smaller, and the curve taken at the periphery increases in height." In these cases Finck recommends measures designed to stimulate the vagus or to reduce the activity of sympathetic.

Of aortic regurgitation, Finck says: "It has the characteristic shape of a high dome, which enables one to make a correct diagnosis at the beginning of the illness, when the classical symptoms, including the murmur at the base, are not yet sufficiently strong to be perceived by the ear."

He considers the normal curve of the right arm to be higher (of greater amplitude) than that of the left and when the opposite is true, even though the pressures are the same, he regards it as almost pathognomonic of syphilitic aortitis. (See Fig. 3, A and E).

Aneurism of the aorta is most easily discovered in this way; besides the fact that the values of the maximum are different on both sides, the curve has such an abnormal shape that it is impossible not to think of an aortic ectasia when this is noticed.

Finck has undoubtedly opened up a very profitable field of research and, while all the factors which go to produce the changes he has studied are, as yet, imperfectly understood, there is no doubt that the work already done is of much value and a great aid in diagnosis.

I have been able to repeat some of his work, deriving the measurements of amplitude, however, from the Tycos recording sphygmomanometer charts. The resultant curves are comparable, except that it must be remembered that the hydraulic ram waves are entirely eliminated and the reading begins at the upper end of the curve. All readings are taken as the extraarterial pressure falls, which reduces instrumental error in all types of apparatus.

Conclusions:

The peripheral arterial pulse is characteristically modified in a number of its appearances by disease. These changes from the normal can be recognized by several instrumental aids, and of these the sphygmotonogram, or curve traced by the pulsations in the artery during the release of obliterating, extraarterial pressure, is perhaps the most valuable in the clinic and at the bedside. It has many posibilities not yet explored.

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Inner Realities

Is an atom or a sun any more real than a sense of wrong or a craving for peace and power or grief over a death or a feeling of discouragement? ..Indeed, when we get right down to facts, is not the world within us the most vital, the world closest to us, the most real world?—Alfred Wesley Wishart, D.D., *in* Forbes Magazine, *Nov.*, 1929.

Postoperative Subcutaneous Emphysema

By S. L. GOVERNALE, M.D., *Chicago*
Instructor at the Institute of Surgical Technic

SUBCUTANEOUS emphysema is a surprisingly infrequent postoperative complication. It is because of its rarity and dubious prognosis that I venture to present this paper. There are a few scattered cases of emphysema following trauma of the face and chest regions reported in the literature, but rarely do we see or hear of cases developing this manifestation immediately after tonsillectomy.

Alexander and Follett,[1] in a review of subcutaneous emphysema, note that various wounds, such as stab wounds produced by a lance or bayonet, may result in a rush of air into the wound, producing emphysema of unlimited extent. Subcutaneous emphysema may result from a rupture of almost any part of the alimentary canal; also from any rupture of or trauma to the respiratory tract, such as the nose and accessory sinuses. W. E. Shastid,[2] in a very recent publication, reports a case of subcutaneous emphysema in a boy who sustained a penetrating wound by means of a pencil piercing the apex of the left lung, causing a rush of air into the supraclavicular fossa, neck and face, and entirely obliterating the left orbit, with an interstitial emphysema of thorax and trunk, to the thigh region.

Byrne[3] reports a case of subcutaneous emphysema following a tenotomy and tendon transplantation, under ether administered by the open method. As the patient was recovering from the anesthesia, he coughed considerably. The author is of the opinion that, in this instance, intrathoracic trauma, perhaps, led to the emphysema.

This case is particularly cited because some may be inclined to think that undue pharyngo-tracheal trauma, in the removal of the tonsils, may excite an emphysematous manifestation.

Forbes[4] reported another case of subcutaneous emphysema which resulted from the presence of a foreign body in a bronchus. The point of interest in this case is that the emphysema manifested itself prior to any bronchoscopic examination or any operative procedure being undertaken. The author's conjecture is that it was a possible rupture of a small pulmonary vesicle, with subsequent leakage of air into the mediastinum and the tissues of the neck.

Rosenheim[5] states that emphysema of the head and neck after tonsillectomy, is a rare complication. He also confesses that the method of production of this emphysema is not understood.

OTHER ETIOLOGIC FACTORS OF EMPHYSEMA

1.—Occurs during the first and second stages of labor.

2.—Occurs as a result of a fractured rib injuring the parietal and visceral pleura.

3.—Occurs as a result of fracture of nasal and orbital bones.

4.—Perforating duodenal and gastric ulcer.

5.—Injury to lung tissues during the performance of artificial pneumothorax.

6.—Administration of anesthesia by the direct insufflation method.

7.—Two cases reported developed emphysema following operation for empyema.

8.—Berkeley and Coffen state that, during the influenza epidemic in 1918, out of 1,700 influenza cases, 9 developed subcutaneous emphysema and spontaneous pneumothorax. These observers asserted that the etiology is rather obscure.

REPORT OF THE AUTHOR'S CASE

James P., 42 years old, underwent a tonsillectomy, under general anesthesia with ether by the open drop method. The right tonsil, being the more hypertrophic, was removed by the Sluder method, and the left by dissection and the snare. The latter was deeply submerged and of the sclerotic type. Very little bleeding was noticed during and after the operation.

Deep cyanosis and severe dyspnea were apparent when the patient was brought to his bed, associated with a very violent cough, which persisted for about ten minutes.

Twenty minutes after he reached his room, I examined his face and neck, and a definite swelling was evident on the left angle of the jaw. When the patient was seen at a later

period, a demonstrable emphysema was revealed from both supraclavicular fossae to the zygomas. So great was the swelling that there was very little facial resemblance to the patient upon whom we had operated only a short time before. The inferior limitations of the emphysema were at both clavicles, extending laterally from thence to the acromion processess, infiltrating under the trapezius muscle, ascending through the areolar and fascial planes of the neck, and reaching the zygomas. The infraorbital fossae were only moderately emphysematous. The emphysema of face and neck seemed to terminate at the posterior borders of the sternocleidomastoid muscles.

The sensation elicited on palpation of the emphysematous skin is a crackling or parchment-paper-like feeling. A further examination of the patient revealed a definite tympanitic note on percussion of the left chest, elicited from the second to fifth intercostal spaces and limited, medially, by the midclavicular line. The lateral border of tympanitic resonance seemed less audible beyond the mid-axillary line. These findings indicate *left pneumothorax*, with a concomitant medial cardiac displacement.

When the patient was examined for possible hemorrhage from the fauces, a very extensive emphysema of the soft palate, uvula and possibly of the base of the tongue was revealed, with some suspected involvement of the glottis. The dyspnea was interpreted to be due to the combined factors: Pneumothorax, with partial collapse of the left lung and cardiac embarrassment; and threatened asphyxia, resulting from emphysema of soft palate, base of the tongue and possibly of the glottis.

Both temperature and pulse rate began to increase on the second day, reaching the highest point on the fourth day of the disease, and then gradually declining to the normal level. The emphysema, too, seemed at its peak on the fourth day, after which a gradual absorption of the air was observed, more rapid in the thorax than in the subcutaneous regions. Blood examination for air emboli in the circulatory system was entirely negative. The patient enjoyed an uneventful recovery and was discharged from the hospital an the end of the seventh day.

Mechanism of Production of Emphysema

The present conception of the mechanism involved in subcutaneous emphysema is apparently obscure, from what one may deduce after reviewing the available literary contributions. The mechanism involved, in the case cited, was as follows: A plug, either mucous or blood, was aspirated into the bronchus. In the attempt to expel this plug (since the anesthesia was a light one, thus retaining the reflexes), the intrapulmonic pressure was so great that both the visceral and parietal pleurae were ruptured, thus permitting air to invade adjacent tissues.

Experimental and anatomic evidences show that the most common place for the pleura to rupture is at the hilus of the lung, the reason being that, when intrapulmonic pressure is intensified, the lung is forced to expand in its entirety. The portion of the lung which comes in contact with the thoracic wall is more protected from rupture, because of the great resistance it meets at the thoraco-pleural junction. In contradistinction, the pleura which is tangent to the mediastinum finds the minimum amount of resistance when the pulmonic pressure is exalted; thus a rupture of the peripheral alveoli ensues.

Subsequent to rupture of the pleura, the rush of air is directed, primarily, into the pleural cavity, producing pneumothorax. When a moderate pneumothorax has developed, and should the intrapulmonic pressure continue its augmentation, because of violent coughing or some extrapleural pressure (such as hemothorax), the air will eventually be communicated to the mediastinum and work its way into the neck by following the line of least resistance or the fascial planes. This conclusion is based upon an observation made during an experiment performed by Dr. Joannides, of the research hospital at the University of Illinois, to illustrate a point in the mechanism of subcutaneous emphysema as it occurred in the case under discussion.

Once a perforation of the pleura is established, it is feasible to explain how the air produces emphysema, either with or without pneumothorax. During inspiration the lung expands and the air rushes into the pleural cavity through the laceration. During expiration, however, the lung collapses and the laceration becomes closed. It is, therefore, obvious that air may get out of the lung during inspiration but none may be admitted or reenter the lung from extravasated air pockets.

Byrne is of the opinion that the emphysema observed in his case was due to a rupture of pulmonary alveoli from post-anesthetic coughing and retching. The escaped air takes a course along the inter-alveolar connective tissues, into the root of the lung, and then appears first over the apex of the lung, and so into the lower part of the neck. The most plausible theory as to the mechanism of the emphysema is that advocated by Richards. "Subpleural air, after undue straining or coughing, finds its way, with each inspiration, under the visceral pleura and over the surface of the lung,

until it reaches the hilus, whence it is reflected along the great vessels of the mediastinum and then along fascial planes into the subcutaneous tissues of the neck."

Diagnosis

One condition which demands differential consideration is the ruling out of the *Bacillus aerogenes capsulatus* or *B. Welchii* as the causative agent of the disease. While, in the majority of cases, the disease is associated with an injury, it may also follow a surgical ordeal. In wounds, *B. Welchii* excites fermentation of the glucose content in the masculature adjacent to the wound, thus producing gas in the tissues, for which reason the microorganism is usually known as a "gas" bacillus.

Another differentiation may be observed in a fractured jaw, which may sometimes manifest an emphysema in the region of the face and neck. The distribution of the air, is, however, limited to the region of the fractured fragments.

On palpation, the sensation elicited by an emphysematous area is analogous to the feeling of parchment paper. It differs from an edema, in that digital pressure will not produce any concavity of the cutaneous surfaces. Should the emphysema progress to an extensive degree, a certain volume of air finds its way into the circulatory system. Opthalmoscopic examination of the fundi of the eyes will demonstrate the presence of air in the retinal vessels.

Another method of detecting air in the blood is by aspirating 5 to 10 cc. of blood from the cubital vein of the arm, without producing a negative pressure in the vein, and then examining the blood for air bubbles.

Lastly, the presence of air can be accurately ascertained by an x-ray study of the chest and neck. The pneumothorax was not visualized in the author's case because the roentgenogram was not taken until five days after the onset of the complication.

Treatment

Preventive: The orthodox method of performing tonsillectomy, with the head slightly elevated, should be entirely abandoned. On the contrary, the head should be lower than the rest of the body, to prevent any slight aspiration of pus exuding from tonsillar crypts, or blood emanating from the operative fields, into the bronchi. This not only prevents subsequent emphysema, but also pulmonary abscess, which is the more fatal of the two.

In order further to obviate these complications, abolition of the pharyngeal reflexes should not be permitted. The mere blocking of the sensory nerve endings of the pharynx invites foreign bodies to enter the respiratory tract, with no perceptible cognizance of their invasion on the part of the patient, and with the eventual evolution of a pulmonary abscess. Therefore, tonsillectomy under local anesthesia should be discouraged.

Postural Treatment: The head must be lowered, in order to prevent air from invading the cerebral vascular system. Also avoid moving the patient about during the emphysematous condition.

Drug Therapy: If the patient is coughing violently, antispasmodic drugs are indicated. Morphine should be administered, to secure absolute rest on the part of the patient, as violent physical exertion may be conducive to the entrance of air emboli, which condition terminates the existence of a number of these patients. Should a considerable emphysema of the mucous membrane of the mouth be revealed, a spray of 20-percent argyrol and ephedrine will minimize the severity of the dyspnea.

Surgical Treatment: The surgical management of emphysema cannot be overemphasized. There is nothing more satisfactory than the method of multiple incisions, employed in extensive or interstitial emphysema. The length of these incisions is approximately one centimeter; however, there is no objection to making them longer and deeper, if that seems to be indicated.

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The Therapeutic Value of Chlorophyll

By Charles Rudolph, M.D., *New York City*

WHILE, in the last few years, no subject has been given more attention by scientists, as well as by the public in general, than that of vitamins, chlorophyll has been given little, if any, attention, even by those who should be studying it most.

Eighteen years ago, when Funk claimed to have isolated vitamin B from rice polishings, Willstaetter was able to prepare pure chlorophyll. His discovery, that chlorophyll of a certain degree of purity is not soluble in petroleum ether, when free from alcohol, led to the easy preparation of pure chlorophyll. He and his co-workers first deduced the characteristics of chlorophyll from a consideration of the derivatives, which were found by reactions with acids and alkalies. They showed that chlorophyll is identical in all plants and that the chlorophyll molecule consists of carbon, oxygen, nitrogen and magnesium. The work of Berzelius undoubtedly had much influence upon later research workers, especially on Verdeil. To him we owe our first knowledge regarding the relationship of the coloring matter of blood and leaves. Chlorophyll and blood both were considered to contain iron. This view was maintained for a long time.

But in a thesis on chlorophyll by Andre Castelbon, of Paris, the relation of chlorophyll to the blood is well brought out. He writes as follows:

"It is now known that chlorophyll contains no iron, but does contain magnesium, which is believed to serve in the chlorophyll a purpose similar to that which iron serves in hematin, and that it may act as a catalyzer.

"The decomposition product of chlorophyll, hemopyrrol, undergoes rapid transformation into urobilin, when exposed to the air. The hemoglobin ingested by carnivorous animals does not pass directly into the blood, but is decomposed into globin and hematin, of which a great part may be found in the feces. A part of the chlorophyll ingested accumulates; that is, is placed in reserve, since it is found in the lower animals in the liver, and in connection with bile pigments in superior animals. Experiments showed that the chlorophyll of the liver disappeared on a diet free from chlorophyll."

In recent years, Buergi and his disciples, in Berne, have published a number of investigations into the pharmacodynamic properties of chlorophyll. These researches are of considerable general interest, in that chlorophyll is recommended as an excellent substance for influencing anemias of various kinds, for bettering the general condition of health, for improving the action of the heart, for reducing the blood pressure in cases where it is abnormally high, etc.

It might be contended that the same beneficial effects would result from a simply regulated vegetarian diet. It has, however, been shown that after the intake of pure chlorophyll, red pigmentary matter appears in the urine, whereas this is not the case after the consumption of vegetables, even in amounts which, in regard to the content of chlorophyll, far exceed the dose of pure chlorophyll. This difference is, in all probability, due to the fact that chlorophyll in vegetables, being encased within the cellulose walls of the cells, is not easily soluble and assimilable in the human digestive apparatus. In short, *when chlorophyll is taken in the form of a vegetarian diet, it is not freed properly and consequently is not absorbed sufficiently.*

Anemia

A number of dissertations on the action of chlorophyll upon anemic conditions have been published from Buergi's Institute. Buergi himself, in collaboration with v. Traczewski, experimentally produced anemia in rabbits, and then, by the administration of comparatively large doses of chlorophyll, obtained a restorative hematogenic effect. Of still greater interest was the discovery that even minor amounts of chlorophyll markedly potentize the action of iron, so that the recovery took place within a surprisingly short time. It should be noted also, that chlorophyll tends to increase the amount of hemoglobin, even in animals which have not been rendered anemic. It was found, for example, in experiments on chronically anemic rabbits, that chlorophyll had a stronger hematogenic effect than iron, though a combination of chlorophyll and iron was decidedly the most powerful. Buergi, moreover, has published a number of papers showing that chlorophyll is extremely useful in therapeutics as a hematogenic agent in anemias, even those in which other treatment has proved ineffective.

Abderhalden has shown that the iron, calcium and magnesium of the food is sep-

arated in the digestive tube from the complex molecules of our foodstuffs and he declares that "a dietary, even though rich in iron, may be insufficent for the production of hemoglobin, if it does not furnish, along with the iron, the other elements necessary for the hemoglobin molecule."

That chlorophyll furnishes elements which can reconstruct hemoglobin in the body, is shown conclusively by the results obtained by the injections of chlorophyll, as given by Dr. John Harvey Kellogg, medical director, Battle Creek Sanitarium, who reports as follows:

"Care was taken to see that no other treatment was used while the chlorophyll was being employed. Cases were selected which had been in the hospital for some time. The cases studied were those of secondary anemia and tuberculosis of the lungs. The red cell count, before treatment, was, on the average, four million; and after hypodermic injection of chlorophyll, daily for six days, five million. The patients felt much improved, the skin was clearer, the color better and there was less fatigue. In a month, the weight increased as much as 15 pounds.

These researches and those of the University of Wisconsin workers tend to establish the fact that chlorophyll has a very important function in connection with blood formation."

Body Resistance

Koenigsfeld[1] showed that chlorophyll has the capacity of stimulating the conversion of nitrogen in the organism, thus tending to increase the excretion of that gas. Gordonoff and Fukuda[3] subsequently found that chlorophyll stimulates the metabolism, increases the taking up of oxygen and the expulsion of carbonic acid by from 10 to 20 percent beyond the normal, besides augmenting the capacity of the blood for absorbing oxygen. Buergi points out that *chlorophyll* is thus the only hitherto known substance, not possessing poisonous properties, that *has the capacity of stimulating the metabolism and greatly increasing the resistance of the human body to all kinds of infection.*

Buergi and v. Traczewski[2] have investigated the action of chlorophyll on the heart with the aid of their flash cardiograph. They found that, in cases of heart-block, weakness of the heart, etc., in conjunction with abnormal blood pressure (usually due to arteriosclerosis), the administration of chlorophyll brought about a slow, but rather considerable, reduction of the blood pressure and improved action of the heart.

Buergi found also that chlorophyll has a motor effect on the uterus and the capacity of stimulating peristalsis and improving the action of the intestines in animals and human beings.

Gordonoff[4], moreover, informs us that chlorophyll, administered to mammals, stimulates both the volume and the frequency of respiration.

In view of all these facts, Buergi considers himself entitled to designate chlorophyll as a mildly-acting, non-poisonous general tonic. It appears moreover that it has valuable tonic properties in chronic consumptive diseases such as tuberculosis, and thus greatly conduces to the improvement of the general condition of health.

In my article on "Glandular Inefficiency"[5] I emphasized, in addition to the beneficial effect of a diet having an adequate amount of vitamins, the important part which chlorophyll plays in building up a defensive mechanism against diseases by a natural stimulation of the endocrines.

But what are the changes, when by a deficiency of chlorophyll and of the other essential food elements hormonic cooperation in hematopoiesis is, perhaps, partly paralyzed, leading to toxic destruction of the blood corpuscles? We know that, if we do not heed in time the danger signals of nature, these premonitory symptoms will result, sooner or later, in the worst form of neurasthenia. Such troublesome cases are by no means very rare, but they hardly come to observation or are treated by the general practitioner who would send the patient away, advising electrotherapy or a visit to a specialist—anything to get rid of cases considered incurable, or at least very stubborn and obstinate.

In this respect, Dr. Oscar Foerster[6] and Dr. Rudolf Stern[7], professors in the University of Breslau, Dr. Ostmann, director of the State Hospital in Schleswig, Prof. Dr. S. Schoenborn[8], and many other eminent physicians have reported good and quick results by the proper treatment with a relatively new chemical product of chlorophyll, whose chemical formula is C_{18} H_{13} NO_2. General health was restored and sexual impotence, which is always found in patients suffering with this kind of nervous debility, was completely cured.

6, Chatham Square.

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Medical Education

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THE CHOICE of a career is often a difficult one and many young men and women find themselves entered upon the study of a profession without having learned what the profession demands in training, what responsibilities it entails and what rewards it offers.

In medicine, perhaps more than in any other profession, the prospective student should have adequate information so that he may ascertain, if possible, whether he has the essential natural endowments; whether he is prepared to undertake the long and expensive period of education now required; and whether he can afford to await material reward until a comparatively late period in life.

Before deciding to study medicine one should ask himself certain questions.

1. Have I the necessary mental and physical qualifications?
2. Am I financially able to secure the training required?
3. Will I be satisfied with the rewards offered?

Have I the necessary mental and physical qualifications?

The study of medicine requires a good memory, habits of minute and accurate observation, and the ability to reason from cause to effect, and more often from effect to cause. A medical career is not suitable for one not above the average in potentialities of intellect. If the student is unable to grasp the fundamentals of the biologic and physical sciences, as taught in the premedical course, he should not undertake the study of medicine, no matter how ambitious he may be. The science of medicine is based upon the natural sciences and the student who has only a meager talent in this direction should not enter a medical school. Billroth, a famous Austrian surgeon, writing in 1876, said: "There is no excuse for transforming a stupid student into a stupid physician."

Again, certain characteristics of emotion and will are essential to real success in a medical career. The ability to acquire a high degree of personal detachment from the patient, without appearing uninterested, is extremely important. Perfect control over one's emotions in the presence of the patient and under the stress of serious emergencies is absolutely essential. A well balanced emotional make-up is largely a matter of bodily endowment and early environment, but education can do much. In this connection I would urge the prospective medical student to read Sir William Osler's delightful address entitled "Aequanimitas," which will be found in the volume so named.

The medical student should be strong and in good health, since in no other field of endeavor is so much demanded in the way of "staying power" and physique. The physician must be prepared for long periods of work without sleep or rest. It would then be sheer folly for a young man or woman with active tuberculosis, serious heart disease, serious impairment of the kidneys or markedly defective sight or hearing to enter a medical school. The study of medicine as well as its practice is too arduous to justify the effort on the part of those seriously handicapped.

Am I financially able to secure the training required?

No one should attempt the study of medicine without realizing that it is an expensive education, both as regards time and money. There are at least two years of study in a college of liberal arts; four years in a medical school; and one or more years of service in a hospital.—A minimum of seven years after the completion of the

high school course. Usually there is also a period of years when the medical graduate is scarcely self-supporting.

A number of students of exceptional physical endurance and intelligence are able to aid themselves financially by working in hospitals as orderlies, special nurses or technical assistants, while attending school. For the average student, however, it is not wise to anticipate such self-help, but he should be prepared to devote his whole time and energy to study.

The cost of a medical education varies in different localities and is also conditioned by the personal habits of the student. It is safe to say that $1,000 a year is a most conservative estimate of the amount of money required. It is better to postpone the study of medicine until adequate resources are at hand than to prejudice one's health and scholastic success by attemping to study and to earn a living simultaneously.

Many medical schools have special funds from which loans are made to deserving students, or award scholarships to those who show unusual ability and promise.

What are the opportunities offered by the practice of medicine?

To the medical graduate many fields of activity are open. He may engage in private practice, become a salaried officer in the government service (Army, Navy, Public Health Service), become a teacher of medicine and engage in medical research work, or enter the rapidly developing field of industrial medicine. Each of these fields offers different and various rewards in money and in personal satisfaction. This variety of medical occupations makes it possible for individuals of different temperaments and different mental and physical resources to find a place. By far the greatest number of medical graduates enter private practice as general practitioners, a term quite synonymous with the old term "family physician." In fact, the medical course has been developed particularly for their education.

Most physicians must depend upon the income from their profession for a livelihood and naturally the financial reward is of no little interest; yet, it must not be made the paramount object if real success is to be attained. Very few general practitioners are able to amass more than modest sums. The specialists, surgeons particularly, fare much better; and a few even rival industrialists in their incomes. These are the exceptions and not the rule. It has been estimated that the average net income of the physician in the United States is between two and three thousand dollars. The competent physician in any locality will ordinarily be able to earn enough to support himself and his family in comfort if not in luxury, and to save something for old age or disability.

Requirements for Admission to Medical School

All first-grade medical schools require for admission at least two years' study in a standard college of liberal arts; some require three years; several a baccalaureate degree. This period of study is intended to furnish a foundation of general education, to discover and to develop intellectual ability and to provide a working knowledge of the general principles and methods of the physical and biologic sciences. Specific preparation is therefore required in biology, general, analytical and organic chemistry and in physics. In addition the acquisition of a reading knowledge of a modern foreign language, preferably French or German, and some college training in English, form a part of the pre-medical course. If possible, this preparation should be further strengthened by some study of physical chemistry, trigonometry, embryology and psychology. If time and money permit, some excursion into the fields of art and literature will be of great benefit.

There are approximately 80 class A medical schools in the United States and Canada, most of which are integral departments of either state or privately endowed universities. By far the majority of these schools are located in large cities where there is a greater abundance of clinical material. Several very excellent schools, such as the University of Michigan, at Ann Arbor, and the University of Iowa, at Iowa City, are in relatively small towns. However, these institutions have large, state-supported hospitals which receive patients from the entire state.

In the autumn of 1928, there were 12,537 applicants for admissions to 80 schools in the United States and Canada. Of this number, only 7,014 were accepted; there were, therefore, more than 5,000 individuals who desired to study medicine but who were not permitted, for various reasons, to do so. As most medical schools are compelled by their facilities to restrict the

number of students which they will admit, it is wise to make an application for admission as early as the school will accept it. The prospective medical student, having decided on the school which he wishes to enter, should, at the beginning of his pre-medical course, familiarize himself with the specific entrance requirements of that school. Unless this be done he may find that, at the end of his pre-medical course, he is lacking in some essential pre-requisite, since the various medical schools differ somewhat in minor particulars as regards requirements for admission.

The Medical Course

The medical course extends over four college years of nine months each. The first two years are devoted almost exclusively to the study of the fundamental medical sciences; the last two years to the practical application of these sciences to the problems of disease. The curriculum of the first and second years includes anatomy, physiology, biochemistry, bacteriology, pathology and pharmacology. That of the third and fourth years, the principles of medicine, surgery, obstetrics and pediatrics, together with shorter courses in the various specialties. The technic of examination is learned, and practical experience is obtained in dispensaries and hospitals, where the student examines, diagnoses and treats patients, under the direction of members of the faculty.

The majority of medical schools confer the degree of Doctor of Medicine at the end of this four-year period. There are, however, a number that require, in addition, a year's internship in an approved hospital before granting the doctor's degree. The candidate for the medical degree must be twenty-one years of age.

Before the medical graduate can practice he must pass an examination in accordance with the regulations of the state in which he desires to locate. Each state has its own licensing board, governing the licensure to practice. In many states the medical student must secure from the medical board permission to study medicine in order to be admitted to a medical school in that state, a certificate being issued on the presentation of evidence that the individual has fulfilled the scholastic and other legal requirements for the study of medicine.

The prospective medical student can secure from the office of the American Medical Association, Chicago, Illinois, a helpful pamphlet entitled "Choosing a Medical College." If he wishes further information concerning the nature of a medical career he should consult any one of the more extensive vocational books.*

Everyone who contemplates a scientific career, whether in the field of medicine or elsewhere, should read the "Life of Pasteur," written by his son-in-law, Vallery Radot. This biography portrays in a most fascinating manner the life and work of one of the world's greatest scientists. There has been published recently a short history of Medicine, by Charles Singer, which outlines the contributions of medicine to civilization, written in delightful and easily understandable style. This work will be found most interesting and stimulating.

In conclusion I shall quote from Theodor Billroth's, "Medical Education in the German Universities."

"I consider it my duty to dissuade anyone from the study of medicine who has not at his disposal a certain minimum amount of money, education, industry and talent."

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*"The Physician", by Dr. J. M. T. Finney; published by Scribner.
"The Young Man and Medicine", by Dr. L. Barker: published by Macmillan.
"Training and Rewards of the Physician", by Dr. Richard Cabot; published by J. B. Lippincott Co.

Doctors' Fees

Considering that the doctor's fee represents interest on a fairly large capital investment, overhead, profit and loss, as well as skilled personal service, it is not so high. Compared with the prices charged by the barber, the plumber, the bricklayer, the carpenter, even with the cost of unskilled labor, the doctor's fee is quite equitable.
—Warren (Pa.) Times.

THE SEMINAR

CONDUCTED BY
MAX THOREK, M.D. (*Surgery*)
GEORGE B. LAKE, M.D. (*Medicine*)

[NOTE: Our readers are cordially invited to submit fully worked up problems to the *Seminar* and to take part in the discussion of any or all problems submitted.

Discussions should reach this office *not later* than the 1st of the month following the appearance of the problem.

Address all communications intended for this department to *The Seminar*, care CLINICAL MEDICINE AND SURGERY, North Chicago, Ill.]

PROBLEM NO. 11 (SURGICAL)

Presented by Dr. Max Thorek, Chicago

(See CLIN. MED. and SURG., Dec., 1929, p. 905)

Recapitulation: A girl, 15 years old, was operated upon for acute, suppurative and gangrenous appendicitis and the diseased organ removed. Cigarette drains were placed in the ileocecal region, along the ascending colon and in the cul-de-sac of Douglas.

Recovery was prompt and uneventful. The drains were removed within a week and the patient left the hospital two weeks later, well, except for a granulating area about the size of a silver quarter, at the site of the drains.

Five weeks later, the attending physician reported that all ordinary measures had failed to heal this wound. The Wassermann test was negative.

On readmission to the hospital the patient showed, in the right inguinal region, a circular area, 2 cm. in diameter, deep-red and corrugated in appearance. This did not bleed on manipulation and was not united to the surrounding skin. A probe could be introduced a distance of 5 cm.

Requirements: Diagnosis and treatment.

DISCUSSION BY DR. E. C. JUNGER, SOLDIER, IA.

The girl of this problem probably has a fistula, the open, distal end being in continuity with the lining of the bowel or with a fecalith or some other foreign substance. It will heal when the cause is removed.

The fistulous tract should be excised or thoroughly cauterized and the skin sutured, if the denuded area is too large to be covered promptly by the process of epithelialization.

If, perchance, the unhealed area consists solely of unhealthy granulation tissue (which seems unlikely), this should be curetted away, deeply enough to permit the skin edges to be brought together and sutured.

DISCUSSION BY DR. J. R. SMITH, WARSAW, MO.

This is an extremely interesting case, on account of the patient's youth and the condition of the appendix ("floating in pus"), which would naturally indicate that the cause of suppuration might have been, and probably was, due to external injury, prior to the developed appendiceal condition and that this gangrenous appendix and pocket of pus was walled off from the peritoneal cavity; otherwise an autopsy, in place of a postoperative stage, would have been the result.

Taking this condition to be a fact, would it not be sufficient evidence to suggest why the "danger signal," with its unhealed, corrugated edges, is still in evidence?

No family history is given; no temperature chart; no radiographs; no descriptions of the actual heart and pulse activity; no

blood pressure readings. These things may mean much in a puzzling case.

Two things are evident: A sinus coming from something, that refuses to heal, and a positive indication of danger—a deep-red and rough protuberance. Lacking the symptom of bleeding, this latter may not be an indication of cancer, but *never trust it*. The patient has youth and the healing of the major operation in her favor, but *now* is the time to save her life; not wait to see if it might develop into a cancerous condition.

For relief, I would suggest—yes *demand —complete extirpation* of this offending, obstinate tissue condition. When we see a danger signal, it is our duty to find out *why* Nature is calling for help. Procrastination, too often, means death. There may be not the slightest trace or symptom of cancer; but what changes may five, ten or twenty years produce in this very case?

SOLUTION BY DR. MAX THOREK, CHICAGO

The man who said "There is nothing new under the sun" was, as we all agree, right; but occasionally surgeons in their practice meet conditions which have never been described before, and, on reflection, some of us will be forced to decide that there is, once in a while, "something new under the sun." And so it is with this problem.

Please review again the case presented. At first glance, it does appear that the matter is a simple one, as Dr. Junger says, in discussing the problem. He continues by saying that "This girl of the problem has a fistula, the open, distal end being in continuity with the lining of the bowel or with a fecalith or some other foreign substance." The doctor also further states that he believes "it will heal when the cause is removed, and the fistulous tract excised or thoroughly cauterized." Of course, this sounds very simple. The doctor is apparrently sure as to what caused the failure of the wound to heal. He may be surprised, as I was. We shall see further on.

Dr. Smith goes a little further in the discussion of this puzzling situation. His discussion speaks for itself. Kindly review it. He believes that a temperature chart, a roentgenogram and a description of the actual heart and pulse activity, as well as the status of the blood pressure readings would mean much in this case. This, as you know, was not done. The reason why they were not given is that they were believed to be of no great moment in describing this problem. Only the important factors which I thought to be of weight were cited, in order to arrive at a diagnosis. The doctor is suspicious of a possible malignant degeneration, and he demands "complete extirpation" of the corrugated surface that defies our diagnostic acumen. I admire his sense or surety, but would suggest circumspection.

It must be confessed that I felt just as much at sea as any of the physicians with whom I discussed the possible diagnosis of this enigmatic problem. At least two dozen men were consulted; and none of them made a diagnosis as to what the cause of the lack of closure of this wound was, or what this corrugated, granulated, protruding mass might be.

The thing that we considered, of course, was tuberculosis. That was ruled out. Syphilis was dismissed by a negative Wassermann test, a thorough history and the lack of any other manifestations that might suggest even the remote possibility of a luetic infection. The possibility of a foreign body obtruded itself on my mind. I argued, "May be a portion of the cigarette drain has been left behind, when my assistant removed it; or perhaps, although the sponge count was reported correct, one of these mischief-makers has eluded us and gives rise to trouble".

Down to the x-ray room went the patient. A thorough fluoroscopic and radiologic study was made, from every angle and from every point of view. The result was negative. There was no pus or discharge of fecal matter, as pointed out before. The wound was dry and the protruding area was also dry. A probe, passed down along its tract, reached deep into the pelvis. Guess as we might, no one made a diagnosis Many of my confreres, reciting this case to their colleagues, asked what the possibility might be, and not one of them even scented the true etiologic criterion.

I know by this time you are itching to know what it was. Let us banish the suspense. The corrugated tissue was *the fimbriated end of the fallopian tube*. How did it get there? Here is the explanation. You will recall that we introduced cigarette drains; one of these was placed along the cecum; another one at the ileocecal valve; and the third one into the cul-de-sac of Douglas. When my assistant removed the drain from Douglas' pouch, the fal-

lopian tube undoubtedly followed the drain up into the wound, and *there* it remained. Of course, no amount of desiccating powder, no amount of curreting, and no amount of removing of the corrugated mass would ever contribute to a closure of the wound.

What did we do? We simply pushed the tube back into the place where it belonged and covered the defect with one suture, uniting the cutaneous lips separated by the granulating (?) area. Of course, the opening closed at once and the patient was discharged from the hospital in a few days, perfectly recovered.

As I stated, you need not reproach yourselves for not being able to diagnose this case. Only the person who has had a similar experience would remember it and could solve the problem. I have never seen a case like this in my surgical experience of over a quarter of a century. I searched the literature and gleaned nothing from it which would even suggest the report of such a case.

Under these conditions, I believe you will agree with me that, occasionally, "There is something new under the sun."

Problem No. 2, 1930 (Surgical)

Submitted by Dr. J. R. Sturre, Minneapolis, Minn.

The patient was referred by a physician for surgical treatment of the left tube and ovary.

H. J.; girl, 15 years of age; of Swedish-American parentage.

Family history: Father, dead (tuberculosis); mother living and well; 1 brother and 1 sister, living and well.

Past history: Appendectomy in 1928, for acute attack of appendicitis; complete recovery. No other illness, except the minor diseases of childhood. One year ago, at the age of 14, the girl was raped by an uncle, aged 52.

Present complaint: Pain in the left lower quadrant of the abdomen, present for 2 months.

Examination: The girl was a well-nourished white patient. Mentally she was somewhat retarded. The head and neck, thyroid and chest (lungs and heart) were negative. The abdomen was negative, except in the left, lower quadrant, where the slightest pressure, or even stroking, to the left of and below the umbilicus, over the rectus muscle, was very painful. Spasm of the rectus muscles was very active and pronounced. She lay on the table with her left side flexed, to favor the painful area. No masses could be made out, and deep palpation was impossible because of tenderness, which was very marked. Bimanual examination of the vagina and rectum was negative. The reflexes, hands and skin were normal.

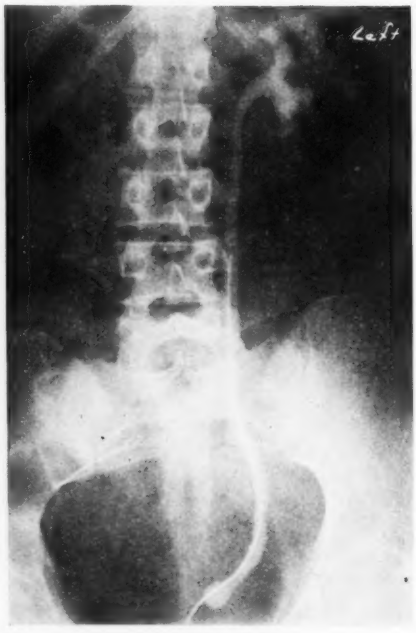


Figure 1

Laboratory tests: Smears from the urethra and cervix were negative for gonococci; x-ray study of the spine was negative. *Urine*: Catheterized specimens, repeated, were normal, chemically and microscopically. *Blood*: Hemoglobin, 82 percent; normal red and white blood cells; Wassermann test, negative.

Treatment, at this time: Rest in bed and hot douches. These were continued for 3 weeks, with no relief.

The patient was sent to a hospital and examined cystoscopically. The bladder was normal and a catheter passed, with ease, up the right ureter, the ureteral orifice being normal in appeaance. The left ureteral orifice was of pin-point size and situated on a papilla, which was raised ¼ inch above the bladder wall, and whose base was more than ¼ inch in diameter.

(Continued on p. 139)

THE CLINIC

UROLOGY

Interesting Kidney Cases

By WINFIELD SCOTT PUGH, M.D., *City Hospital, New York*

WE HAVE to present, today, two kidney cases that are of great interest. Both are said to be rare, but the thought is becoming fastened in the recesses of our cerebral cortex that they are not so uncommon as has been supposed.

Case 1.—Syphilis of the kidney:

While it is well known that syphilis may attack any organ in the body, I do not believe that we are sufficiently cognizant of just what that means. It must be confessed that, even though all of us are greatly impressed by the statement attributed to the late Sir William Osler, "He who knows syphilis knows medicine," many cases of genito-urinary syphilis are overlooked.

It is said that, in syphilis, the urinary and genital organs, the testicles excepted, enjoy a relative immunity to infection. For this reason the subject has received scant attention in the current textbooks. We further hear that the number of clinical observations on syphilis in the genito-urinary system, recorded in literature of the last decade, in which diagnosis was definitely established, exceeds the number previously reported. This suggests that these lesions are not rare, or are by no means so uncommon as was previously supposed We have recently reviewed the works of several authors and note particularly that their observations coincide quite closely with our own.

In medical reports, however, one sees most frequently the terms: Syphilitic nephritis, acute and chronic; chronic interstitial nephritis of syphilitic origin; and amyloid syphilitic kidney. All of these are well covered in the literature and should be thoroughly studied by every urologist, as we have all overlooked them many a time. The case in which we are interested differs so greatly from anything hitherto reported, that we believe it to be of unusual interest. That we have none too many ways of making an accurate diagnosis and that many errors must occur, is revealed in the following report:

HISTORY

J. W.; white; male; married; age 45; father of three apparently healthy boys.

Family history: Has no bearing on the case.

Previous personal history: Had measles and mumps during childhood; has been generally well otherwise. Admits having had a sore on the penis when he was about twenty years old, but does not think a body eruption followed. Never received anti-syphilitic treatment.

Present Illness: For the past year he has been having attacks of blood in the urine. He states that, in June, 1928, his urine appeared bright red, but that he was otherwise apparently well. At this time he was on a trip in Northern Canada, where no physician was available. In three days the urine was clear and he gave it no more attention. In August, blood was again noticed. At this time the patient thought that, if he waited a few days, it would pass off again. It did so. In Oc-

tober, however, the urine was black and loaded with clots. This time our friend became alarmed and called a physician. The doctor put the patient to bed and administered those old favorites, calcium lactate and ergot. After three weeks of rest, the bleeding stopped.

During the month of January, 1929, it became apparent to Mr. W. that he was losing weight and that his appetite was poor. One day, while standing with his hands on his hips, he though he felt a lump in the left flank. This discovery rather disturbed him and he proceeded at once to the office of the physician. On arrival the mass seemed to have disappeared, as it could not be located by either the physician or the patient.

In May, 1929, he began having severe pains in the right kidney region, running down toward the penis and also in the direction of the thigh, as well as the calf. Our patient was rapidly losing his grip and bloody urine had again made its appearance. This time it would not stop.

When seen by us, we found a man about 6 ft. 1 in. tall and weighing about 152 pounds. His skin was of a saffron tint and his condition rather suggested malignant disease somewhere. His general physical examination was made by a highly competent medical man, who found no real evidence of disease except a lump in the right flank.

When we went over him we found that the mass, referred to above, evidently filled the space between the ribs and the pelvic border, extending back toward the spine and anteriorly in the direction of the mid line of the abdomen. It seemed large but we could form no definite idea as to its extent. The external genitals were normal and the rectal examination negative. The urine was acid, sp. grav. 1.028, and contained albumin, much blood and some pus. Microscopically, there were numerous epithelial cells from all parts of the urinary tract.

A few days later the patient stated that his right renal pain was increasing and that, at times, it was colicky. He also thought the mass was plainly palpable.

At this point let us recapitulate a few of the outstanding diagnostic points in our case. There was present:

A.—Marked loss of weight.

B.—Pain in right kidney area.

C.—A definitely palpable tumor in the right kidney region.

D.—Markedly persistent bloody urine.

One would naturally say that here were all the classic symptoms of a kidney tumor; and so strikingly present, that it seemed all over for the patient, except for the last rites. But the family were eager that something be done.

In reviewing the history, we noted well the story of the penile sore. Accordingly, a Wassermann test was done by a competent serologist, and found negative. In view of the history, this gentleman also suggested a spinal fluid Wassermann test, which also gave a negative reaction.

Urologic Examination: Having had the assurance of able associates to rule out any extra-urinary condition, we proceeded to complete our own survery.

The urethra was found normal throughout.

The bladder, aside from a few purpuric spots, seemed normal.

Catheters passed readily to the pelves of both kidneys, and specimens were taken.

URINES

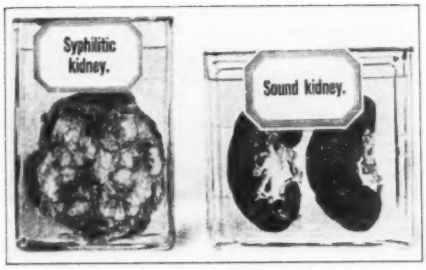
Right Kidney	*Left Kidney*
Color, clear	Clear
Sp. Grav., 1.010	1.020
Pus: Few pus cells	None
Red blood cells: None	None
Tubercle bac.: None	None
P. S. P.: None after 30 mins.	Prompt appearance, in about 2½ mins.

The roentgen-ray pictures showed a large right kidney and a normal shadow on the left. *Pyelograms* were as follows: Left side, a negative pelvis; on the right we noted a very decided thinning, I might say thread-like appearance, of the lower calyx. The upper portion revealed a complete filling defect.

With all the evidence at hand, we felt that we were dealing with a malignant tumor of the kidney.

Why do we suspect that the growth is not benign? Simply because, in our experience, ninety-five percent of such tumors are malignant.

To make a long story short, we opened the loin, with the usual nephrectomy incision, which begins at the costo-vertebral border, just below the last rib, and is carried downward and forward, in the direction of the anterior superior iliac spine. The fascia and muscles were separated and the kidney exposed. When the latter organ was delivered into the wound, it



Showing a Syphilitic and a Sound Kidney for Comparison.

quite strongly suggested a hypernephroma —in fact, we thought it was typical.

Nephrectomy was not difficult. The wound closed without drainage and the specimen was sent to the laboratory. A few days later we were chagrined to receive a report from the sanctum of the pathologist that our tumor was a syphiloma or syphilitic kidney.

There is little more to add, except to console ourselves that it was a functionless organ that might have caused further damage. In the presence of any tumor we now always think of syphilis. In this case, all laboratory reports, previous to operation, were negative as to infection with the treponema pallidum.

Case 2.— Tuberculosis of the kidney in pregnancy:

A review of the literature shows us that kidney tuberculosis in pregnancy is so seldom reported as to be considered rare. Owing to the lack of systematic grouping and classification of cases in which this lesion is associated with pregnancy, it is difficult to determine its real incidence. James Israel and W. E. Stevens each report two cases, no other author having noted more than one. We ran across a note of a large clinic showing that, in 3,103 maternity patients, only one case of renal tuberculosis was found. Some clinicians believe that there is a natural resistance in pregnant women to tuberculosis, The contrary is, however, true. Pregnancy is, in fact, more likely, as a result of increased physiologic activity, to light up an old focus of tuberculosis.

The intern has just handed me a record of another large maternity service, in which 6,000 deliveries took place, and not one case of renal tuberculosis was diagnosed in pregnancy. Note the word *diagnosed*. It is highly significant.

In attempting to judge the frequency of these cases, Werboff emphasized the necessity of remembering cases in which interruption of pregnancy was undertaken for renal symptoms. The real causes of these cases are often undetermined. It being a a fact that renal tuberculosis is more common in women, it should seem natural to accept the theory that exacerbations are caused by pregnancy. We cannot help but feel that these cases are none too rare.

History

M. L.; white; age 26; native of Poland.

Present illness: Pollakiuria, nocturnal and diurnal; four months pregnant.

Family History: No record of tuberculosis.

Previous Personal History: Measles and scarlatina in childhood; rheumatism at eighteen; several attacks of bronchitis during the past few years; one normal childbirth, three years ago.

Present illness: The patient has noticed, for the past two months, a gradual increase in urinary frequency. She has not bothered very much about this until the last two weeks. Since this time the frequency is day and night, and urination is also quite painful. There is, in addition, at times, a slight pain over the right renal area, radiating down along the course of ureter. At this point she was referred to us.

Examination showed a rather delicate-looking woman, in the early stages of gestation. An examination of her heart and lungs was made by a skillful internist, and reported as negative for tuberculosis. Abdominal examination, aside from the uterus, reveals a distinctly enlarged and painful right kidney. Catheter specimens of urine showed much pus, but no tubercle bacilli were found. A complete urologic examination was decided upon. The report follows:

Urines

Right Kidney	*Left Kidney*
Color: Very cloudy	Clear
Urea: Trace	1¼ percent
Pus: Abundant	None
P. S. P.: Trace in 15 mins.	3 minutes
R. B. C.: Few	None
Albumin: Considerable	None
T. B. C.: None	None

Guinea pig innoculations, from the right ureter, were later positive for tuberculosis. Our obstetric confreres suggested that it was unwise to make a pyelogram, as enough evidence was available. We could not

quite agree with this, but accepted it. A nephrectomy was performed and the patient now looks well and has gained greatly in weight.

The treatment of kidney tuberculosis in pregnancy leaves three methods open to the physician: (1) Palliative; (2) conservative; (3) radical.

In the *conservative* treatment one merely adopts an expectant attitude, giving symptomatic treatment until the end of pregnancy—a method only to be adopted where no competent assistance is at hand.

The *palliative* procedure consists in emptying the uterus, in order to do away with the injurious effects of pregnancy on the tuberculous process.

Radical treatment consists of nephrectomy or a combination of abortion and nephrectomy. Removal of the kidney is certainly the method of choice in unilateral disease. The conservative measures should be reserved for bilateral affections or tuberculosis of a remaining kidney.

30 East 40 Street.

Surgery of the Kidney

You can often feel a floating kidney better if the patient lies on the other side and draws up the knees.

It is wrong to operate on some movable kidneys. If by chance you find a movable kidney that has not caused symptoms, never tell the patient—but tell a friend.

You may be sure that an operation for nephroptosis will never cure the patient suffering from Glenard's disease.

Never use turpentine, mercury, potassium iodide, or cantharides on nephritic patients without knowing that you may suddenly cause complete anuria and death by so doing.

When you find albuminuria without other signs of nephritis, look for stone in the kidney.

Pain in the region of the kidney is more often due to other conditions than to calculus.

Never think that because a patient looks well he cannot have renal or vesical tuberculosis or cancer of the bladder—the cachexia comes late in them.

Any rapidly growing tumor in the abdomen of a child is more likely to be a renal sarcoma than anything else.

—*Bernays "Golden Rules of Surgery."*

CLINICAL NOTES AND PRACTICAL SUGGESTIONS

Metabolic Disturbance Manifested in the Oral Cavity

LESIONS of the mouth should not always be looked upon as being of local, buccal origin. There are various lesions and affections of the teeth, gums and buccal cavity generally, that, while presenting a local picture, are but secondary factors of a systemic disturbance, derangement or disease. We must, in order to give our patients the full benefit of our services, attempt to determine the predisposing factors for the buccal presentation.

The simple mouth affections, secondary to digestive derangement, are not of critical importance and usually clear up when the digestive derangement is corrected, either by the aid of local treatment, or even if left alone.

Not all buccal lesions are so comparatively harmless. In every case presenting stomatitis, gingivitis, gum recession, bleeding gum tissue, etc., there is a predisposing factor. Unless the condition is simple and the causal factor is very evidently of local origin, we should consider the possibility of a systemic condition as the predisposing and causal factor. There should follow a complete mouth examination and a history, obtained from the patient. The predisposition may vary in degree and severity in different individuals, but must be taken into consideration and traced out to justifiable elimination.

I shall here consider some conditions commonly seen in the buccal cavity and the relationship they may have to a systemic condition. Some vital conditions often present mouth lesions that can be traced as symptomatic of the predisposing disease. One of these is diabetes.

DIABETES

Diabetes is essentially a metabolic disturbance. The regulation of the sugar supply of the body is a matter of greatest importance. There is the conversion of sugar to glycogen and the subsequent gradual reconversion of this glycogen to sugar, according to the needs of the body and its consumption in the tissues for energy purposes. We should know something about this disease and some of the symptoms it presents in the mouth.

A very important reason why we should try to recognize diabetes is that the general condition of malnutrition and debility, so often marked in this disease, makes the patient especially vulnerable to slight injuries or infections. Since gangrene is liable to occur, with or without marked injury, in such individuals, we must, to the best of our ability, avoid injury or open wounds.

Characteristic symptoms and lesions in the mouth may be observed, which are considered by some authors as diagnostic of diabetes. In fact, there are cases in which this disease is first diagnosed from the mouth condition. Some individuals have no other symptoms than those presented by the mouth and teeth. Such patients may complain of: (1) Dryness and a burning sensation in the mouth; (2) stickiness of the tongue; (3) pasty, sour or sometimes a sweet taste; (4) the breath may present a typical fruity odor; (5) the reaction of the saliva is acid; (6) the tongue is hardly ever normal, is swollen and puffy and often shows the impressions caused by the contact of the teeth; (7) gingivitis and general

stomatitis are common; the former even more common than the latter; (8) the gum tissue, especially the interdental papillae, is red, swollen and spongy; (9) there is often a marked tendency to bleeding of the gum tissue, especially the papillae, on the least provocation. This is often quite painful; (10) there may be ulceration of the gingival tissue. These conditions may produce a true condition of pyorrhea.

Where the pyorrhea is a result of diabetes, it is usually more extensive over the entire arch than are other forms of pyorrhea. As the process goes on, the inflamed gingivae recede from the teeth, exposing their necks. In these subjects there is a greater tendency to calculus formation. The deposits are lighter in color, softer and more easily removed than ordinary calculus deposits. The exposure of the necks of the teeth, in gum recession, gives rise to the occurrence of caries below the dento-enamel junction, which characterizes this form of pyorrhea. In ordinary pyorrhea, cervical caries is uncommon. Therefore, a sudden, marked increase in cervical caries suggests diabetes; or the first sign may be loosening of the teeth, occurring rapidly, with pain, and without any obvious cause. Ordinary pyorrhea is not usually associated with pain. Furthermore, after removal of the involved teeth, diabetic pyorrhea does not subside, as is usually observed in ordinary pyorrhea. The involvement of the bony socket is so often found in this disease that it is considered as a diagnostic symptom by some authors.

Thrush

Thrush or parasitic stomatitis is another disease that occurs as a result of nutritional disturbance. It is associated with typhoid fever, diabetes, etc. The lesions are small, white, elevated patches, resembling coagulated milk, which have a smooth, velvety appearance and, not being firmly attached, are easily wiped off. Their chief locations are the cheeks, margins of the tongue and hard palate. The small patches spread, coalesce and form membranous layers, which become brownish or dirty-gray in appearance. The mucous membrane is only slightly inflamed. In such cases as these, it is exceedingly important to treat the patient systemically at an early stage and to build up the resistance generally. A seriously lowered resistance may permit the condition to spread to the pharynx, and put the patient in a very critical state.

The main point I wish to impress is the importance of general observation of mouth lesions and their systemic connections. A lesion—inflammation, recession of the gums, etc.—should not be looked upon solely as a local condition. It must be remembered that they may have predisposing factors which may be remote from the seat of observation and which only a corroborated physical examination may prove. To get the best results of our work in the mouth, it is essential to treat the local condition in conjunction with systemic treatment.

It does not necessarily follow that a patient presenting any one of the aforestated conditions is diabetic. It is well, however, to carry a mental picture of these and to study the case on its possibilities, especially if there happen to be two or more of the symptomatic factors in one patient, and possibly in an individual showing a lowered vitality.

Harry L. Bisnoff, D.D.S.
Jamaica, N. Y.

Phenol in Boils and Carbuncles

WHEN boils or carbuncles are solitary and have not been preceded by others, in a way to suggest the recurrence of a crop, I have found the injection of pure carbolic acid (phenol) an excellent remedy.

In the early winter, while on duty at our local hospital, I found myself suffering from what, at first, I supposed was a boil, but which soon developed into a typical carbuncle, having a number of distinct openings. It was situated on the right side of the neck, just where the collar pinches. I decided to try what was then a new plan of treatment for me, so I went to a brother physician to seek his aid.

First freezing the carbuncle with chloride of ethyl and melting the carbolic acid in a teaspoon over an alcohol lamp, he injected one minim of pure phenol deep down into the center of the swollen mass. The next day, deciding that this dose had not been a sufficient one, he repeated the injection, this time using a dose of four and a half minims (0.3 cc.) This was all the acid used. It did not succeed in aborting the carbuncle, for treatment was begun too late.

It did, however, produce some very remarkable results. The first of these was

the almost entire relief of all pain, which never returned to any considerable extent. The next was to prevent the burrowing of the pus and the consequent spreading of the infection. The carbuncle suppurated early and discharged without the use of the knife. The course of the disease was much milder and shorter than usual, and the whole experience was such as to make me an enthusiastic advocate of the treatment.

In using this method, be sure to freeze the boil. Let the acid be pure, and the syringe warmed when using it, as otherwise the solution might be absorbed into the system and poisoning result. Use a small needle, and inject boldly down into the center of the affected tissues. Keep the boil covered during the subsequent treatment, to avoid irritation.

J. M. FRENCH, M.D.,
Milford, Mass.

Optology

LIKE Medicine, Dentistry and other professions, Optometry is in a state of evolution. In the past, our schools made the mistake that the medical schools seem, to those that study ophthalmology, to make even now, by touching the "high spots" of miscroscopic anatomy, physiology, theoretical and practical optics and pathology. The Universities of Ohio, Illinois, Rochester, Columbia, etc., in their schools of applied optics, seem to make it largely an engineering speciality; but the Pennsylvania State College, with its backing of the state association and its 3,750 hours of study, seems to give due regard to the patient above the eyebrows and behind and below the lacerated foramen. In other words, consideration is given to the patient as a whole.

It is my conviction that eventually there will be no ophthalmologists or optometrists to bemoan one another; but there will be one profession, with an undergraduate course of five or six years, that will take the best of the training of medicine, optometry and (don't faint) osteopathy, and is likely to be called Optology.

There is a serious objection to the psychosis of jealousy that prevails in every profession, especially in the medical. Ailing humanity does not exist for us to prey upon; but rather we exist to alleviate its sufferings, and that practitioner and that system which accomplishes that purpose in the best and quickest way, is certain to prevail in the end. That is a law of nature.

Our own people (the optometrists) complain of the narrowness and restriction placed upon them, mostly by organized Medicine, but there are extenuating conditions in the lack of preparedness of many of our members; but this holds good in medicine as well, though the most ignorant and thoughtless physician is only slightly restricted.

I believe that every professional man who has the health of individuals in his keeping should be compelled to take periodic postgraduate courses and reexaminations, and the results should be posted in his office, the same as his diploma.

C. H. SEILER, D.O.S.,
Joplin, Mo.

[There are certainly two sides to the controversy between the ophthalmologists and the optometrists. It is true that most if not all of the latter are not qualified to diagnose and treat serious eye diseases; but they can and do correct many of the simpler errors of refraction satisfactorily, and at a price within the means of many who could not afford the services of an ophthalmologist.

There appears to be a definite place in our scheme of things for the optometrist who has sufficient training in the anatomy and physiology of the eye to recognize conditions which are beyond his powers, and enough honesty to refer such patients to an ophthalmologist.

Perhaps there is a real place for a profession of Optology, but we rather doubt the wisdom of multiplying separate schools for the development of new healing crafts which truly belong under the general field of Medicine.—ED.]

Costs and Profits*

TO SOLVE the problems of how to give the best service to all of the people all of the time, with the lowest cost to the sick and the greatest return to the physician, various experiments must be conducted and questions answered. Some of the questions are:

1.—How much does it cost a physician to see a patient in his office for diagnosis? or treatment? How much to see a patient in a hospital? How much to make a house

*From *Bull. Chicago M. S.*, Sept. 14, 1929.

call when he must travel one mile? Three miles? Five miles? Ten miles?

2.—If a fee of $5.00 is charged a patient for a given service, what part of that fee is profit and what part goes to pay the overhead?

3.—Can the individual general practitioner give the best medical service to his patients without calling on specialists?

4.—Can physicians, family doctors, and specialists, working as individuals, give such a service most economically?

5.—Can physicians in partnerships do this more effectively?

6.—Can the County Medical Society incorporate to practice medicine and to serve the public more advantageously?

7.—Should partnerships be for practice in a limited field or for general practice?

8.—Would not the ideal group partnership be that of several family physicians, possibly all internists specializing in various fields, plus the surgical and other specialists needed, to give their patients all types of medical service all the time?

9.—Are organizations managed by laymen, whether incorporated "for profit" or "not for profit," for the purpose of practicing medicine in any or all its phases needed in order that all of the people may have adequate medical service all of the time?

10.—Should physicians be remunerated for the service they render to those unable to pay fees that cover the cost of the service to the physician, from funds derived from taxation? From charitable organizations and foundations? From the income from endowments collected by medical societies? From the sale of lay memberships in medical societies?

11.—Should physicians' offices be located in office buildings? In central or neighborhood business districts? In their homes? In or adjoining hospitals?

12.—How can the scientific and economic problems of medicine be best presented to the profession, to public officials, to philanthropists and to the general public?

N. S. Davis III, M. D.

Chicago, Ill.

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[These are interesting and vital questions and there are probably others which might, with profit, be incorporated in this list.

But unanswered questions are of no value to anyone. Have any of our readers actually made a business survey, as suggested in questions 1 and 2? If so, what were the results?

Surely, many who see these lines have helpful ideas and suggestions concerning these matters, or, perhaps, other pertinent questions to add to the list.

We shall welcome a free discussion of problems which are so enormously important to the profession as these are. Let us hear from many.—Ed.]

Dietary Errors and Indigestion

A PHYSICIAN, devoting his time to the practice of general medicine, has many patients who come to him seeking relief from symptoms referred to the stomach. "My food distresses me!" is their usual way of expressing this trouble.

After many years of practice and observation, the first question I found myself asking the patient was, "What do you eat for breakfast?"

I was at first surprised at the oft repeated answer, "Oh, I eat very lightly at breakfast!" This usually meant toast and coffee, or orange juice, toast and coffee.

When the patient, with a note of pride, boastfully answers, "Oh, I eat a *very* light breakfast!" it is with great restraint that I keep from throwing up my hands in despair.

The usual symptoms accompanying the "light breakfast," or "no breakfast" regime are: distress in the middle of the morning, in mid-afternoon, occasionally at bedtime and, in some instances, during the night.

For a while, relief often follows eating or the ingestion of sodium bicarbonate, but later there is more or less distress at all times. With the increase of symptoms the patient leaves off this or that article of food, and finally goes to some doctor for relief. From histories elicited in hundreds of cases, I am led to believe that the usual procedure of the doctor is somewhat as follows: X-rays are used and may disclose an ulcer—or as often fail to do so.

What does the doctor usually say? If the roentgenogram is positive, he, of course, states that there is an ulcer, puts the patient on the most approved Sippy diet, forcing him to give up work and thus, in many cases, inflicting a great hardship upon him.

If the x-ray study is negative, the doctor may do a gastric analysis, or fail to do so at all; in any case he will disclose that the

patient has hyperacidity and, prescribing an alkali, advise him to eat whatever agrees with him avoiding, fat and greasy foods; with the result that the patient, acting on such advice, usually goes from bad to worse.

In such cases, a thorough physical examination should be made, including the heart, lungs, urine, blood pressure and, above all, a serious inquiry into the patient's habits of eating and drinking.

Next, write a diet list for the patient, and *write it in his presence.* Do not give him a stock form, but *adapt it to the particular individual* and go over it in detail with the patient, so that he thoroughly understands what it means.

On his next visit, if he is suffering from any untoward symptoms, ask him if he has followed his diet faithfully. Of course his answer will be in the affirmative. Then ask him what he ate for breakfast; for dinner; for supper and, upon listening to his answers, you will be perfectly justified in wondering if there exists at all in this world such a thing as human intelligence.

But, whether or not intelligence exists, stomachs assuredly do and they, unlike the intellect, will most certainly rebel when underfed, illfed or overfed.

Experience is a hard teacher and, in the course of a long and busy practice, it has taught me what I choose to call my *favorite diet* for cases where the patient complains of "distress" or "hunger pains."

This diet, faithfully followed, has brought to my patients, not only relief and cure, but has enabled them, while following it, to continue undisturbed at their daily tasks.

It is as follows:

Breakfast:

Orange juice or grapefruit
Egg (any style except fried) or bacon, or both
Toast or bread and butter
1 cup of coffee, milk or water

Dinner and Supper:

Meats: Roast beef, lamb, chicken, lamb-chop, steak.
Fish: Cod, haddock, halibut, scrod, flounder, perch.
No sauces or gravies.

Vegetables: Baked or mashed potato, spinach, string beans, beets, peas, beet greens, dandelions, lettuce, squash, swiss chard, celery, asparagus, endive, broccoli.
No other vegetable.
Bread and butter.

Bread pudding, tapioca, custard, baked Indian pudding, boiled rice, prunes, baked apple.
One cup of tea, milk or water.

Eat slowly; chew well; drink no liquid while eating meals—wait until the end.

In the middle of the morning (10:30 A. M.), afternoon (3 P. M.) and at bedtime, take a glass of milk and some crisp crackers. Chew the crackers and wash them down with the milk.

Absolutely nothing else to be eaten or drunk except water, and especially no pie, cake, pastry, fried or greasy dishes; no soups, stews, salt meats (except bacon), candies, salads, ice cream, sodas, rich sauces or gravies.

After writing the diet, read it over with the patient, explain the need of a well balanced diet and how the only thing that will combine with the hydrochloric acid in the stomach is some form of proteid, (egg, meat or fish) and that he must have one or the other at all three meals to protect the stomach and allow it to get well. Explain that the crackers and milk which he must take in the middle of the morning, afternoon and at bedtime are not for food, but to protect his stomach between meals.

For the distress, until the diet has accomplished its desired result, give calcium carbonate powder, a teaspoonful every two hours and, to prevent constipation, give calcined magnesia powder, a teaspoonful two or three times a day or oftener, depending on results; or you may give calcium carbonate in tablet form, chewed up and washed down with water, or Calsoma in water.

Of course, every one will talk about the various theories as to the causation of hyperacidity and gastric ulcer, and even duodenal ulcer, but let the theories go when a patient comes for a relief and remember they do get well, in practically all cases, *if they will follow the diet absolutely.* I am firmly confinced that the greatest single cause of indigestion is either no breakfast, or a poorly balanced one—carbohydrate and no proteid—and that a good breakfast is the most important meal of the day.

LAURENCE F. CUSICK, M.D.
Boston, Mass.

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[There can be no doubt that improperly balanced diets and barbarous ways of eating give rise to many cases of indigestion; and it seems entirely reasonable that these conditions can be made better if the food is selected with care and eaten with decorum.

We are not, however, convinced of the soundness of Dr. Cusick's theories, no matter how successful his methods may be in practice. We know a number of people who habitually eat no breakfast, or only some fruit and a glass of milk, who never have the slightest sign of indigestion. Of course, it is inexpedient to wash down carbohydrate foods; but the idea of reserving all fluids until the end of the meal is illogical.

We heartily indorse the suggestion to individualize diet prescriptions and to write them in the patient's presence. It makes a good impression. Too few physicians know enough about dietetics to be able to do this, so they should study this important subject diligently.—ED.]

Skin Sensitiveness to Parthenium Hysterophorus

NOT all cases of skin poisoning are due to *Rhus toxicodendron* or other members of the *Rhus* family—at least not in this part of the country.

I have seen several cases of dermatitis of considerable severity (two of them resembling eczema) which careful tests have proved to be due to contact with the leaves of *Parthenium hysterophorus*, a plant which grows freely in southern Texas, and is locally called "Mexican birdseed weed," or sometimes "ragweed," though it does not belong to the ragweed family at all.

This plant belongs to the Compositae and is one of the commonest weeds along the roadsides, in alleys and on neglected lots. It grows 2 to 3 feet high and has ridged, fibrous stems. The leaves are much like those of the short ragweed, but the flowers are quite different, being white and extremely small, like tiny cauliflowers.

In treating the cases of poisoning with this weed, an alcoholic extract was made from the dried leaves and diluted 1:10. Of this dilution, 0.05 cc. was mixed with 0.45 cc. of a buffer solution, and 0.1 cc. of the mixture was injected, subcutaneously, subsequent doses being increased by 0.1 cc. and given twice a week, until 1.0 cc. was given, which dose was repeated, once a week, until frost.

No reactions followed these injections, *if care was taken not to spill any of the extract on the surface of the skin.* Three patients so treated showed marked improvement.

It is suggested that many cases of chronic dermatitis, occurring in the Southwest, may be due to contact with this plant, and that further studies along this line may have rather important results.

S. W. FRENCH, M.D.,
Major, M.C., U.S.A.
Ft. Sam Houston, Tex.

A Local Anesthetic in Confinement

ON AUGUST 12, at 12:30 P.M., a call was answered from a lady who would not go to a hospital for confinement, because she was one of the twenty-three children borne by her mother with safety, at home.

When I arrived the patient was in great pain and had been since five o'clock that morning. The pressure had everted her bowel to the size of a thumb, all around the rectum.

The rectum, vulva and lower vagina were coated with Mentholdyne, for its anesthetic and antiseptic power, which lasts twenty-four hours or longer.

My hands and wrists, after the nails and hair were cut close, washed and dried, were then given two coats of Mentholdyne, instead of rubber gloves.

On the first examination the presentation was a normal one, with the bag of water protruding. This the patient broke with the pressure against the examining finger, beginning the second stage of labor.

I gave her pills of 1/6 grain (10 mgm.) each of caulophyllin, to give her better uterine contractions and relieve the after pain. In ten minutes I wanted to repeat the dose but could not, as the fetal head was then passing through the vulva; but the pain was very mild. The patient only said a few words when her nine-pound boy was delivered. She received one-half teaspoonful (2 cc.) of Ergotol in water, after delivery. The infant's eyes were treated with Argyrol to prevent infection. Selvage gauze was saturated with Mentholdyne to dress the umbilical cord and prevent odor and infection.

The next morning the rectum was still swollen, so I again used the Mentholdyne on it and over her abdomen, and she asked that it be applied to her back, which was done only once.

The patient said that the Mentholdyne made her more comfortable then she had been with any of her four previous deliveries.

ALDUS A. HOOPMAN, M.D.,
Seattle, Wash.

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[This is interesting and, under certain conditions of rural practice or where hospital treatment was refused, might be an advisable way to manage such a case; but, in this day and age, one can hardly agree with an obstetrician who fails to use rubber gloves and other aseptic measures in the handling of such cases. Our national record of puerperal infections is now disgracefully high, and no chances should be taken.

It should also be remembered that "one swallow does not make a summer," nor does one case, however dramatic, prove anything. It seems rather surprising that a local application could have so profound an affect, and we should be glad to hear of successes and failures with this preparation. —ED.]

Drug Addiction Treatment Dropped as Futile

WORD comes from Philadelphia that, after two years of intensive study of morphine addicts, the Rockefeller Foundation has decided to abandon the work of "curing" those afflicted with the morphine habit, chiefly because the addicts do not cooperate in "staying cured."

Their findings are very interesting and we give a list of the results of the investigation herewith:

1.—Contrary to general belief, the morphine habit does not invariably produce mental deterioration. In some instances it stimulates cerebration.

2.—The drug is stored in the muscles of the body and not in the intestines, nerves or brain substance.

3.—Virtually one hundred percent of the addicts applying for treatment professed a sincere desire to rid themselves of the habit.

4.—Virtually one hundred percent lied in making that statement.

5.—The main effect of the work done was to reduce the tolerance and consequently the "kick" of the drug from an abnormally high dosage to a much smaller quantity.

6.—Having reduced the dosage so low that the habit cost only a fraction of what they had been paying, the addicts who took the treatment started all over again.

7.—New York drug addicts made greatest use of the facilities afforded by the generosity of the Rockefeller Fund and the Philadelphia General Hospital.

8.—Noting these results, the work has been abandoned.

The principle of the clinic was to give the morphine addicts a very thorough cleansing after they had had a large dose of hyoscine, the hypnotic nerve depressant usually specified in mental disorders. When they have been purged of the drug that has found lodgment in their muscular systems, the addicts find themselves back to the point where a very small dose of morphine will give them the same "kick" as a large and expensive dose formerly produced. And instead of casting the habit aside and remaining cured, the clinic has found that practically all of them eagerly return to their old trail, rejoicing that their expenses have been cut for the time being.

And so, although the clinic has been besieged since its closing by addicts wishing to be cured, it does not plan to continue its work, realizing that nothing can be done when a patient refuses to cooperate with the doctor.

—*Hosp. Topics & Buyer.*

Cannabis Indica Addiction

IN REPLY to the request in your November issue for genuinely authentic information regarding addiction to cannabis indica, I wish to report that, some four years ago, I met an Indiana physician who told me that during the World War he contracted this habit. He said that for three years he was as much a slave to the addiction of this drug as was ever a user of opium in any of its forms. His case had been diagnosed tuberculosis and it seems that the drug was given to keep the patient in a state of euphoria. Judging from the doctor's general appearance when I saw him, I seriously doubt the correctness of the diagnosis. However, when he left the service he found himself addicted to this drug and had to take treatment, which he described as being similar to the treatment for morphine addiction. He said it was at least four months after he left the sanatorium

before he fully regained his strength and nerve equilibrium. This may be an exceptional case.

CHARLES FOX ANDERSON, M.D.,
Lexington, Ky.

An Obscure Puerperal Condition
(Case Report)

THE patient was a married woman; housewife; age 33 years. She had three living children; had been operated upon for tubal pregnancy eighteen months previously, with uneventful recovery; and, when seen, was pregnant at full term.

I was called at 6:00 A.M. and found her having labor pains at fifteen-minute intervals, with one-finger dilatation and effacement of the cervix; a breech presentation; vomiting and diarrhea. Aside from the vomiting and diarrhea, everything was normal, including the pulse, blood pressure, and urine.

At 8:00 P.M. on the same day, dilatation was complete and she was taken to the delivery room. Two hours later the breech was at the outlet and the pains became less severe; when suddenly she was stricken with an intense pain in the right scapular region and the uterine contractions ceased, the pulse being normal.

A version, under gas-oxygen-ether anesthesia, was done immediately and the baby delivered without any difficulty.

An hour later, or at midnight, she suddenly developed symptoms of collapse—anxious expression; cold perspiration; fast, thready pulse — approximately 170 — and dyspnea. There were no unusual hemorrhages or other occurrences at this time.

Her pulse improved slightly from the effects of the usual stimulants and her mental condition was somewhat better the following morning. She had ceased to vomit during the afternoon of the first day; but early in the morning of the second day she again began vomiting, the vomitus gradually taking on a fecal odor.

She lingered along, vomiting more or less every day, her pulse remaining anywhere from 120 to 150, until she died six days later. She had no pain during the last several days; no distention of the abdomen; no chills; no fever until the last eighteen hours; was rational until a few minutes before death; the lochia, heart, lungs and kidneys were normal.

She was given the usual remedies, including dextrose intravenously and sodium bicarbonate and fluids intravenously, per rectum and by hypodermoclysis. Nothing out of the ordinary could be found upon bimanual, vaginal examination.

On account of the gravity of the situation and not being able to make a definite diagnosis, no operative procedure was resorted to.

I shall be pleased to receive suggestions as to the probable diagnosis and criticisms of the management of the case.

J. T. COLWICK, M.D.,
Durant, Oklahoma.

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[Here is another illustration of the vital importance of autopsies, for the instruction of attending physicians and for the improvement of vital statistics, by making possible accurate statements of the causes of death.

One wonders what diagnosis Dr. Colwick entered upon the death certificate!

We should like to see several discussions of this problem, but, unfortunately, we shall never know, in the absence of an autopsy, how accurate they are.—ED.]

Superfetation

THE "Puzzling Case," reported by Dr. Miller (CLIN. MED. AND SURG., Nov., 1929, p. 828) was, in my opinion, one of superfetation.

Some physicians question whether a pregnant woman can have a later ovum impregnated, but the case which I am about to recite settled the question in my mind.

I attended a woman in the delivery of a well-developed, full-term infant. The placenta and membranes were normal and were delivered intact.

Three days later I saw her again, when she seemed well and every thing was in a normal condition, except that, on vaginal examination, I found a small sac, containing fluid and a soft mass, in the vagina.

Fearing that this might be a prolapsed bladder or inverted uterus, I did not disturb it, but called a consultant, who, finding the mass loose in the vagina, removed it. Examination showed the complete, normal product of a 2 to 2½ months' pregnancy—fetus, placenta, membranes and amniotic fluid.

I can see no escape from the conclusion that this woman became pregnant a second time, while carrying a fetus of 6½ to 7 months' development.

I attended this woman in three confinements, which were all unusual. She never had any labor pains at all. A few hours before each confinement, she experienced a tingling sensation on the inner side of the thighs. When dilatation was far enough advanced, the membranes ruptured and *all three* children were born feet first and "drowned" in the amniotic fluid. All were revived (one after four hours of work) and are now living. The mother had little or no hemorrhage and made a rapid convalescence in all cases. The uterus returned rapidly to its normal size and tone.

E. J. HAY, M.D.

Rogers, New Mex.

Chaotic Therapeutics and the Phagocytes

ON Page 906 of the excellent December (1929) number of CLINICAL MEDICINE AND SURGERY, Dr. Winkler attributes to Solomon Solis-Cohen a remark that therapeutics is a confusion. This was my opinion twenty-five years ago, when I gave up the practice of medicine for a considerable period.

There seems to be no confusion in the mind of Dr. Harry Nyvall (see page 885, same issue) when he injects calcium chloride and sodium salicylate and gets results in pneumonia; nor in that of Dr. Yeomans (page 928), who has relieved pruritus ani with injections of Benacol.

Neither is there any confusion in my mind as to how these results were brought about. *It was by stimulating the phagocytes!* Dr. Nyvall could, in all probability, have obtained the same results by intravenous injections of Metaphen, 1:1,000 or Colloidal Mercury Sulphide (Hille); and Dr. Yeomans might, with equal success, have followed the technic of Dr. Granville Hanes* and injected 1:3,000 hydrochloric acid in the perianal region—or, for that matter, anywhere under the skin.

*See CLIN. MED. AND SURG., Aug., 1928, p. 581.—ED.

How anyone can expect that a few grains of some drug, injected into the six or eight quarts of blood in the body, can have any powerful *chemical* effect, is a mystery to me.

But if successful resistance to infection is a *biologic* affair (stimulation of the number and activity of the leukocytes), as Metchnikoff declared, years ago, the thing is perfectly simple; and it is difficult for me to understand why more physicians are not, at least, giving this method a *trial*, and then basing their conclusions upon the results they see in their own cases.

BURR FERGUSON, M.D.

Birmingham, Ala.

[Dr. Ferguson and several others who have made wide use of leukocyte stimulation, by means of parenteral injections of the salts of mercury, arsenic and other metals, foreign proteins and various other substances, have certainly seen good results.

The *method* is rather widely used, even if Dr. Ferguson's *explanation* is not yet generally accepted.—ED.]

(Continued from p. 126)

While watching the left ureteral orifice for a spurt, the left ureter was seen to expand and glide, as a snake moves, for an inch through the bladder wall; the papilla became erect and a very fine urinary spurt occurred. Attempts to introduce a catheter into the left ureteral orifice were unsuccessful, due to mobility of the papilla. Attempts were repeated again next day, and again were unsuccessful. On the third day the catheter was finally passed, and encountered no difficulty after having entered the ureter proper.

Pyelograms were made (see Fig. 1), and showed that the uretero-vesical junction, at its orifice, was greatly dilated. The entire ureter was dilated to 3 times the normal size. There was no hydronephrosis.

The urine, collected through the ureteral catheter, was normal. Kidney function was normal.

Requirement: Give diagnosis and suggest treatment.

THE LEISURE HOUR

Happiness and the Doctor

NO ONE ever seems to think that there is such a thing as an end of the way for a doctor.

Even the jokesmiths overlook the fact.

There are all sorts of stories like the one about the man who went to Heaven and found the pearly gates closed against him; to whom St. Peter said, "Sorry. Your name's not here."

"But," said the man, viewing the great book with dismay, "it *must* be there. In fact, I'm absolutely sure there isn't any reason why it *shouldn't* be there."

"I know," said St. Peter, idly flirting the leaves, "I've heard that story before; but —why—here's your name way over here! You're not due here for twenty years yet! *Who's your doctor?*"

And that story about the country boy, met by a neighbor, on his way to buy a coffin for his father. "Why" was the man's shocked exclamation, "is your father dead?" "No," said the youth, "not yet. But Doc told me he would be 'fore tomorrow mornin,' an' I reckon he knows what he give him."

And that most unkindest cut of all, the definition of the undertaker as "the man who covers up the doctor's mistakes."

All dealing with the end of the way for some one else, you see, but leaving the doctor hale and hearty, and right side up with care.

It's time some one made a few remarks on the subject, and drew attention to the guide posts along the doctor's way of life —those guide posts which may be read by the light of man's own desires, or by the light of Truth, which is not always the same thing, sad to say, nor always productive of the same results.

A careful and an interested perusal of the journals and magazines devoted to the interests of the medical profession shows many guide posts set up for the young physician. "This way to Fame." "This way to Wealth." "This way to Worldly Honors." But why is there no guide post that says, "This way lies Happiness?" For what else is every man seeking, under whatever name?

What else has any man ever found worth while when he came to the end of the way? And if all his thoughts have been of fame, of wealth, of worldly honors, even unto their full attainment, by what trick of alchemy does he hope at the end to transmute the baser metal of satisfaction into the gold of happiness?

Always there are the guide posts, and always the throng before them; and as the travelers turn into the various roads they say, "This road—to Fame, to Wealth, to Honor, is only a detour; but, for the present, it seems the right road to travel. If you'll notice closely, you'll see that all these other roads join the road to Happiness at different points along the way, and we can leave the detour at any of these points and finish the trip on the Road to Happiness."

And so there is a great scurring for these paths that lead, as all paths must, to the end of the way. They are good roads, as detours go, and for a long time fairly satisfying; though the traffic grows less and less, and the road more narrow and more lonesome as the dark comes on. And then it is that the traveler begins to think of turning into the wide and peaceful thoroughfare which he had almost forgotten.

There were, at first, so many connecting roads. They seem to be fewer now, but at the next one he will change his course.

He goes more and more slowly, for the road of his selection seems not so desirable as at first and the lights shine dimmer as his tired eyes try to pierce the darkness ahead—try to find, at every turn, the guide post that leads to the road of Happiness

at the end of the way, only to find at last the sign, "Road Closed."

For no man may give scant heed to happiness in his youth, and find it at the end of the way. No man may travel on the road to fame, to wealth, to worldly honor, while the thought of fame and wealth and worldly honor is pleasing to him, and then find the road to happiness when he wills.

I am not trying to say that happiness, per se, should be the end and aim of any man's existence; but I do contend that the time will come, in every man's life, when, if he has not happiness, he has nothing. And close association, over many years, with physicians and the families of physicians has brought me to the conclusion that there is no other class of men who so consistently close their eyes to the real meaning of the word happiness, and so illogically expect to have and to hold that which they have made of so little moment in their daily living.

True, the majority of the members of the medical profession, in active practice, would doubtless be surprised at any suggestion that they were not happy, so long has happiness been synonymous to them with accomplishment.

We are told that the Pilgrim Fathers found their happiness in duty well done. And there seems to be a certain amount of happiness in fame—for everyone, that is, except Lindbergh; while worldly honors, in themselves, surely need not clash with happiness; and wealth, one optimistic soul assures us, "may not buy happiness, but will buy a pretty good imitation of it."

Fame, worldly honors, wealth—all good in themselves, but at the best only an imitation of happiness; while the simon-pure article is found in the little, homely joys and pleasures for which the average professional man has so little time; so little time, which gradually grows into so little inclination while the members of his family slowly learn to take their happiness without him, and cease to feel the lack of his companionship.

How can a man take care of a large practice, with all its demands upon him, and at the same time be an active and an integral part of his own family's life? I do not know. But I do know that if he could realize how much he would wish some day that he had done it, he would find a way.

And I do know, too, the final test for the only happiness that matters: Will its light shining down the years, brighten and make worth while the End of the Way?

FLORENCE, AIRD.

Carterville, Ill.

Breeders of Men

You talk of your breed of cattle,
You plan for a higher strain,
You double the food of the pasture,
You heap up the measure of grain;
You draw on the wits of the nation
To better the barn and the pen.
But what are you doing, my brothers,
To better the breed of men?

You boast of your Morgans and Herefords,
Of the worth of a calf or a colt,
And scoff at the scrub and the mongrel
As worthy a fool or a dolt;
You mention the points of your roadster
With many a wherefore and when,
But, ah, are you conning, my brothers,
The worth of the children of men?

And what of your boy? Have you measured
His needs for a growing year?
Does your mark as his sire, in his features
Mean less than your brand on a steer?
Thoroughbred, that is your watchword
For stable and pasture and pen;
But what is your word for the homestead?
Answer, you breeders of men!

ROSE TRUMBULL.

Wise Precaution

Guest (in a restaurant): "Bring me a Welsh rarebit, a broiled lobster, a quart of beer and a piece of mince pie."

Waiter: "Will you please write out that order and sign it, sir?"

—"What for?"

—"As a sort of an alibi for the house to show the coroner, sir?"

Diseases of the Habiliments

A writer has contributed to St. George's Hospital Gazette a prospectus of a proposed work on the pathology and treatment of diseases and accidents of the toilet. The prospectus is fortified by alleged extracts from the forthcoming volume.

Among the lesions described are "per-

forating ulcer of the sock," "false passages of the vest," "hairy mole of the shirt-cuff," "idiopathic atrophy of the pajamas," "sloughing of the posterior foramen of the collar band," and "prolapsus trouseri," while a further chapter is said to be devoted to affections peculiar to evening dress, such as "Addison's disease of the shirt front," "madura pump," and "inoperable volvulus of the neck-tie."

With regard to perforating ulcer of the sock, "treatment by simple suture or the purse-string ligature is not to be recommeneded. Each perforation must be carefully grafted by an expert."

The Wonders of Nature

A youngster in grammar school, who had been studying physiology, among other things, was directed to write a theme on the human body, and produced this masterpiece:

"The human body consists of the cranium, the borax and the abominable cavity.

"The cranium contains the brains, if any.

"The borax contains the heart, liver, stomach and lights.

"The abominable cavity contains the bowels, of which there are five, A, E, I, O and U."

The Psalm of Life

Lives of great men all remind us,
As their pages o'er we turn,
That we're apt to leave behind us
Letters that we ought to burn.
—*Red Fez*

Anatomic Details

The ten-year-old daughter of a prominent physician is fond of writing verses. Not long ago she went to a wedding and wrote an account of it in rhyme. Here is her description of the bridesmaids:

"Some had pug noses and others had Roman.

"Each had a blue ribbon tied round her abdomen."

A Serious Epidemic

The third man had "butted in." He was a stranger to the other two. They looked upon him with disfavor, but he wasn't aware of it.

"I didn't just catch what you was saying," said the "butter in" to the man who had been talking. The man stared at him.

"Sorry," he said. Then he turned to his friend. "As I was saying," he apparently resumed, "there is a great deal of aphorism in town. The doctors hate to admit it, but it's sure to leak out. Aphorism with a touch of simile."

The stranger leaned a little farther forward.

"I guess that's so," said the second man. "At the same time I was greatly surprised this morning to see a sanitary officer putting up a red card with 'Epigrams Within' on it."

"You don't tell me!" said the first man, in some alarm. "I knew there were a few sporadic allegories in town, but I didn't suppose the epigrams had become paradoxical."

"Worse than that," said the second man; "I was told in confidence by one of our leading herbivorous experts that euphemistics have already passed the secondary stage of pulchritude."

It is possible that the "butter in" suddenly grew suspicious. Anyway, he rose hastily and left the car.—*Cleveland Plain Dealer.*

Suggestion for the "London Conference"

Paw sez the best thing for Hoover to do
Is to give them there British a warship or two
And stop all this "yard stick" and parrity" rot;
For if he don't do it, more likely than not
We'll find that our chances are not worth a cuss
To get back the money they borrowed from us
For buildin' the warships they already got.
—B. H.

Diagnostic Pointers

Brief Attacks of Manic-Depressive Depression

In 88 of 634 private cases of recurrent periods of manic-depressive depression, there were definite attacks lasting from only a few hours to a few days. Such attacks may precede or follow the more extensive ones or may occur alone. These brief attacks, when seen by physicians, are very likely to be attributed to other causes—neurasthenia, dyspepsia, auto-intoxication, etc. Sometimes such patients commit suicide, or at least contemplate it.—DR. H. A. PASKIND, Chicago, in *Arch. Neurol. and Psychiat.*, July, 1929.

Placenta Previa

Frank, tragic placenta previa is readily recognized, if the physician is familiar with the condition. The woman at or near term suddenly develops severe uterine pain (not labor pains); the abdomen becomes rigid and increasingly distended; the uterus is distended and uniformly tender and within a few hours the patient is in shock; vaginal bleeding may be present or absent. Briefly, frank tragic placenta previa presents a picture of a surgical abdomen, plus concealed hemorrhage, in a woman at or near term and usually before the advent of labor. It needs only to be differentiated from ruptured uterus — however, the distended uterus of placenta previa does occasionally rupture.—DR. E. D. HUNTINGTON, Chicago, in *Illinois, M. J.*, Sept., 1929.

Clinical Variations in Normal Subjects

The examination of a number of non-pathologic subjects showed many departures from what has been considered normal in sensibility and other tests, as well as in physical characters. The same departures can be found in both normal and pathologic subjects, so far at least as aphasia and sensation are concerned. Clinical deductions based on departures from normal should not be depended upon too confidently. Also, in speech and sensation tests, the psychologic status of both examiner and patient at the time of testing should be taken into account.—DR. T. H. WEISENBURG, Philadelphia, in *J.A.M.A.*, Aug. 3, 1929.

Hydrocephalus

Congenital hydrocephalus is due to malformation of the brain. In older children and adults, the condition generally results from tumors, 70 percent of which are cerebellar. All cases of hydrocephalus have a cause, and this should be found and treated early.

Tapping on the vertex of the skull of a hydrocephalic patient gives a hyperresonant note or "cracked-pot sound." This is *Macewen's sign.*—DR. WALTER E. DANDY, Baltimore, Md.

Tremors

The tremor of thyrotoxicosis is coarse; that seen in the neuroses is fine.—DR. FRANK H. LAHEY, Boston, Mass.

Bile Tract Disease

In the presence of painless and progressive jaundice, with clay-colored stools and a palpable tumor in the gall-bladder region, the cause is almost always *malignant*, and no *exploratory* operation is justified, though a cholecystenterostomy may prolong life and give an easier death.

With the same findings, *except the absence of tumor*, the cause is the same, but the prognosis is hopeless.—DR. FRANK H. LAHEY, Boston, Mass.

Mimicry of Peptic Ulcer

The symptoms of peptic ulcer are often simulated by other lesions and occasionally the mimicry may be very confusing. The cardinal symptoms, hunger pain and hemorrhage, are, however, usually associated

with other evidence that may lead to a correct diagnosis. In the atypical cases of peptic ulcer, in which both hunger pain and hemorrhage are absent, and in cases simulating peptic ulcer, the diagnosis may be extremely perplexing and will require the combination of a careful clinical observation, a thorough laboratory study and a competent roentgenologic examination in order to determine the facts.—DR. J. SHELTON HORSLEY, Richmond, Va., in *Illinois M. J.*, Aug., 1929.

The Endocrines and Arthritis

Of the three classes of arthritic affections—infectious, atrophic and hypertrophic—the two last-named are often grouped as metabolic affections and the endocrines must have a distinct bearing on each case. These glands are really regulators of metabolic activity, every part of the body from bone to skin being affected by them directly or indirectly. If they are unable to function, or if their functioning ability is lessened, the consequences of the slowed metabolism may show themselves in various ways, often even in arthritis.—*The Endocrine Survey*, Sept., 1929.

Blood Cultures

Taking a blood culture is like casting a bait. If one catches no fish on that particular occasion, it is no proof that none are present.

A positive blood culture is important, but a negative one is not.—DR. RICHARD C. CABOT, Boston, Mass.

Sex Excess and Nervous Diseases

Careful observation fails to disclose a single authentic record of a case in which excessive venery has resulted in organic nervous diseases or a psychosis.

Venereal abuse is certainly a potent factor in the production of certain forms of neurasthenia, but no more so than a large number of other causes.

There is not one authentic observation proving that masturbation is the direct cause of nervous or mental diseases.

Sexual excesses can be considered only as a predisposing cause for certain functional nervous diseases. The disturbed function of the internal secretion of the genital glands plays, perhaps, a certain part in the exhaustion.—DR. ALFRED GORDON, Philadelphia, in *Urol. and Cutan. Rev.*, Aug., 1929.

Pernicious Anemia as a Deficiency Disease

It seems that there is a substance, free in liver and freed by gastric digestion in meats and probably in other foodstuffs, which is necessary for the formation of adult red blood cells; and that the lack of this substance, due to faculty gastric digestion, gives rise to the picture of pernicious anemia.—DR. R. WEST, New York, in *Ann., Intern. Med.*, Aug., 1929.

Emotional Indigestion

One is just as likely to have dyspepsia from a nagging wife or husband as from a gastric ulcer.—DR. BERNARD HOLLANDER.

Sterility

A through investigation of sterility in 25 cases showed that constitutional factors depressing the fertility of one or both partners are operative in a large proportion of cases. The incidence of these constitutional faults is greater in the male than in the female and they are commoner than local faults.—DR. S. R. MEAKER, Boston, in *J.A.M.A.*, May 4, 1929.

Appendicitis

In cases of suspected appendicitis, where the diagnosis is difficult, the three following signs may be helpful:

1.—*Cope's obturator test.* Flex the right thigh and rotate the hip joint internally. This puts the obturator internus on the stretch. An inflamed appendix, in contact with and adherent to this muscle, will be irritated by this movement and pain will be experienced in the hypogastrium.

2.—*The Psoas test.* Place the patient on his left side, fully extend the hip joint and abduct the thigh. If the psoas muscle is in a state of irritation from its proximity to an inflamed appendix, this maneuver will bring on pain.

3.—*Edmund Owen's sign.* Even pressure is exerted over the pelvic colon. This forces

gas into the cecum. If, when pressing the left iliac fossa, pain is appreciated in the right iliac fossa, the case is probably one of acute appendicitis.—HAMILTON BAILEY, F.R.C.S. (Eng.), in *Med. Rev. of Rev.*, March, 1929.

Diagnosis of Acute Miliary Tuberculosis

Few diseases present such difficulty in diagnosis, from a purely clinical aspect, as does miliary tuberculosis; it will disguise itself in various forms and mislead one completely, unless the clinician has it in mind. The textbook and the standard teaching is, that after an individual has been ill of miliary tuberculosis for a few weeks there is bound to be marked asthenia and loss of weight, giving the impression of a very sick patient. It is a fallacy to be always guided by such signs. The really positive diagnostic aid which we possess today is the roentgen ray.—DR. MAX J. SCHROEDER, New York, in *M. J. and Record*, July 17, 1929.

Delusions of Grandeur

Delusions of grandeur are twice as common among men as among women, according to a study of patients in Chicago Psychopathic Hospital.—DR. IRENE SHERMAN.

Acidosis in Diarrhea of Infants

An investigation into the cause of acidosis in the condition known as summer diarrhea, acute intoxication, etc., of infants showed that severe acidosis was present in about half the cases. This was a chloride acidosis. The cause of the acidosis is probably loss, in the stools, of base not bound as chloride and not compensated for by loss of hydrochloric acid through vomiting.—DR. B. HAMILTON, of Baltimore, and associates, in *Am. J. Dis. Child.*, Aug., 1929.

Suprarenal Glands and Hypertension

Histologic studies of sections of the suprarenal glands, obtained from the cadavers of patients with known essential hypertension, were made. Cases with primary cardiac or other disease which might have unduly influenced the blood pressure were excluded.

The results showed that there is a close relationship between increased functional activity of the suprarenal glands and hypertension. The lumens of the veins of the suprarenal glands are increased in hypertension, and the ratio of muscle to lumen in hypertension cases is twice as great as in cases with normal blood pressure.—DR. E. V. ALLEN, Rochester, Minn., in *Ann. Intern. Med.*, Aug., 1929.

Diagnosing Non-Diabetics

Eighty-five (85) percent of persons who show glycosuria are diabetic; but it is important to diagnose the other 15 percent as *non-diabetic*, so as to treat them intelligently. This cannot be done without spending some time and effort.—DR. ELLIOTT P. JOSLIN, Boston, Mass.

Ureteral Stricture and Joint Pain

Many cases are sent to the orthopedist for the relief of sacroiliac disorders, when the pain is due to stricture of the ureter.

Chronic perinephritis, in children, is almost always mistaken for spondylitis or hip disease.—DR. LOUIS NAGORSKY, in *M. J. and Record*, Aug. 21, 1929.

The Gland of Immunity

Carefully conducted experiments indicate that the long-sought endocrine "gland of immunity" is the endothelium of the capillaries. When this structure is seriously interfered with, the production of immune bodies is greatly decreased.—*J.A.M.A.*, Nov. 30, 1929.

Different Types of Jaundice

The hemolytic form of jaundice is rarely severe; the onset is usually insidious and the patient is not acutely ill, except in certain cases of acute hemolytic anemia; the liver is not enlarged and the spleen may or may not be palpable; the stools are normal or darker than normal in color and the urine shows urobilin and no bile.

The presence of colicky pain indicates an obstruction of the common bile duct as the cause of the jaundice; if it is complete, the stools are clay-colored and the urine contains bile and no bilirubin.

An easily palpable liver, especially if associated with tenderness, suggests intra-

hepatic disease and a toxic or infective hepatic type of jaundice.—DR. D. GRAHAM, Toronto, in *Canad. M. A. Jour.*, Oct., 1929.

Colic and Eczema in Infancy

Very young infants with "true colic," or vagogenic gastro-enterospasm, in whom eczema develops later, are almost three times as numerous as those suffering from either condition alone. Both conditions probably have a common allergic basis.

Atropine is effective almost three times as frequently in infants with colic alone as in infants with both colic and eczema.—DR. P. J. WHITE, of St. Louis, in *Am. J. Dis. Child.*, Nov., 1929.

Rectal Causes of Pain in Penis

Pain or burning at the end of the penis is frequently due to lesions in the rectum. —DR. LOUIS NAGORSKY, in *M. J. and Record*, Aug. 21, 1929.

The Thyroid Gland and Aviation

A malfunctioning thyroid gland should be considered a disqualifying factor in the examination of aviation candidates.

Old pilots who show symptoms of malfunction of the thyroid should not be allowed to participate in pursuit or attack maneuvers nor in prolonged cross-country flights. There is likely to be ocular imbalance and a tendency to nervous exhaustion.—MAJ. A. M. BRAILSFORD, M.C., U. S. A., in *Military Surgeon*, August, 1929.

Multiple Sclerosis

A peculiar sensation of an electric discharge, radiating down the vertebral column into the lower extremities, is one of the premonitory symptoms of multiple sclerosis and has been observed in a number of cases in which the syndrome soon appeared.—DR. JEAN LHERMITTE, Paris, France, in *Arch. Neurol. and Psychiat.*, July, 1929.

Specimen Containers

The close-covered, impervious paper boxes of various sizes, used for packing ice cream in the retail trade, make very satisfactory containers for sputum, feces and other similar specimens submitted for laboratory examination. They cost less than one cent each and can be burned after being used once.

Congested Prostate and Vesicles

Chronic congestion of the prostate and vesicles is a common condition. It is frequently not diagnosel or wrongly diagnosed as kidney or other diseases. The most common cause is sexual irregularities. The treatment consists in correcting these with a sexual hygiene program, together with local treatment to the prostate and vesicles in the most stubborn cases, The symptoms are very similar to those of chronic prostatitis. The results of proper treatment are, in most cases, excellent.—DR. R. W. BARNES, Los Angeles, in *Urol. & Cutan. Rev.*, Oct., 1929.

The Wassermann Reaction

A fixed positive blood Wassermann reaction, persisting in spite of regular and active treatment, means continued activity of the syphilitic disease in the patient presenting this reaction.

Cases having a titration of 32 or higher may be assumed to be Wassermann-fast; that is, the reaction either returns to its former strength as soon as treatment is discontinued or it cannot be changed to a negative by any treatment that the patient can or will endure.—LT. COL. E. B. VEDDER, M.C., U. S. A., in *Military Surgeon*, August, 1929.

Rickets in Premature Infants

Most premature infants are *potential* rickets cases, and should be carefully observed on that basis.—DR. ALAN G. BROWN, Toronto, Can.

Current Medical Literature

Amiodoxyl Benzoate in Arthritis

In *Calif. and West. Med.*, July, 1929, Dr. J. E. Harbinson reports that ammonium-ortho-iodoxybenzoate (Amiodoxyl Benzoate) was administered intravenously in 26 cases of arthritis.

A dose of 0.5 Gm. was always given as a preliminary test for sensitiveness. The regular dose was 1.0 Gm. of Amiodoxyl Benzoate, dissolved in 100 cc. of sterile physiologic saline, at body temperature, injected in about 15 minutes. Injections were usually given every 3 days. Six (6) or 8 injections constituted a course and, in some cases, the course was repeated after a 2-weeks' interval. No patient received more than 23 injections.

There was generally some stinging and burning sensation felt in various regions, with flushing, following injection. In a few cases there was nausea and retching.

All patients were given physical therapy of various kinds and the diet was supervised.

Of the 26 patients treated 46 percent were markedly improved; 31 percent moderately improved; and 15 percent slighty improved.

Such favorable results should not be expected in patients with marked bony changes, as will be seen in those with no x-ray evidence of joint disease with deformity.

Sciatica, also, is markedly improved by Amiodoxyl Benzoate injections.

Dr. J. M. Bowers, in *Northwest Med.*, July, 1929, reports 51 cases, mostly of long-standing or very severe arthritis, treated in the same way by Amiodoxyl Benzoate. Four (4) were acute; the others chronic cases. In this series, a minimum of 5 and a maximum of 20 intravenous injections were given. Three patients received less than one course of from 6 to 10 doses; 34 patients received one; and 14 patients two courses. More than 50 percent of all patients treated showed definite improvement. Systemic hygienic measures, the removal of demonstrable foci of infection, use of vaccines and orthopedic appliances, when called for, should be associated with the Amiodoxyl Benzoate treatment.

Sodium Amytal Anesthesia

In *Phys. Therap.*, Sept., 1929, Dr. E. N. Kime, of Indianapolis, states that Somital (sodium amytal), administered intravenously with the proper precautions regarding the dosage and antidote administration, seems to be a valuable anesthetic agent, especially in electrosurgical operations about the head and respiratory tract, when other anesthetics cannot be used.

The safe dosage of amytal should not exceed 20 grains (1.3 Gm.). The antidote consists of caffeine-sodium benzoate, 15 grains (0.97 Gm.), and ephedrine, 25 minims (1.54 cc.), given hypodermically before the patient leaves the surgery. The time of operation should not exceed 1 hour.

In a number of cases of hopelessly incurable septic neoplasms, in which palliative operations were done and in which the above precautions were taken, the operation proved successful, in that the patient was relieved of his sepsis and pain and the anesthesia, so far as induction, conduction and postoperative course was concerned, could hardly have been improved upon.

The combination of electrosurgery with amytal anesthesia will probably revolutionize the management of hopelessly incurable septic neoplasms.

The General Practice of Obstetrics

In a general survey of the present condition of obstetrics and gynecology in the United States, by Dr. C. H. Davis, of Milwaukee, in *J.A.M.A.*, Sept. 28, 1929, he shows that the percentage of obstetric cases under the care of physicians has increased greatly during the last half-century, without any apparent lowering of the maternal risk, except in the private practices of well-trained obstetricians and in teaching institutions.

Dr. Davis is of opinion that medical students who go into general practice after graduation require a more adequate clinical training in obstetrics; that more institutions are needed in which physicians who wish to specialize in obstetrics and gynecology may obtain the necessary training; and that there is a great need for graduate nurses who may qualify as midwives, in conjunction with the medical profession, in the care of a large group of women who are unable to pay for adequate obstetric service under existing conditions.

New Treatment for Pruritus Ani

In *Am. Med.*, May, 1929, Dr. L. Goldbacher, of Philadelphia, describes a method of treating pruritus ani by perianal and submucous injections of phenolized oil.

A 10 cc. glass syringe, fitted with a ¾ inch, 21-gage needle is used.

For the perianal injection, 10 cc. of a 5-percent solution of phenol crystals dissolved in cottonseed oil is poured or drawn into the syringe. The first injection is made into the area of most intense itching, the site being previously sterilized with iodine. The whole 10 cc. should be injected slowly to a depth of

about ¾ inch, keeping the shaft of the needle parallel with the long axis of the rectum. Further injections are made at intervals of 5 to 7 days where itching is intense, using 5 to 10 cc. of the oil.

The submucosal injections precede or accompany the perianal injections and are made through an anoscope, using a 20-gage, gold tonsil needle about 4 inches long. Six to eight injections are made under the mucous membrane above the papillary line, at intervals of from 4 to 7 days, using from 1 to 5 cc. of the oil.

The idea underlying the treatment is that, since hemorrhoids and loose rectal mucosa may be contracted by injection of a solution of phenol in oil, the same solution might contract the dilated tissue spaces and channels found in pruritus ani. This method should not be instituted until all other rectal disease has been eradicated. It has given excellent results in a number of cases treated by the author.

Bismuth and Arsphenamine

An editorial in the *J.A.M.A.*, Oct. 26, 1929, points out that, with the conjoint use of neoarsphenamine and compounds of bismuth, the necessity for the use of larger doses of either no longer exists. Schamberg, in a recently published article, states that arsphenamine should always be used in conjunction with bismuth or mercury compounds. Bismuth has a lower toxicity and a higher therapeutic effect than mercury. As a general statement, 100 mg. of a bismuth compound, with 0.45 Gm. of neoarsphenamine, should be given once a week (in syphilis). Schamberg's therapeutic effects have been just as good as those formerly obtained with larger doses of arsphenamine and serious complications have been entirely absent.

The Steinach Operation

In *Illinois M. J.*, Aug., 1929, Dr. Max Thorek, of Chicago, expresses his opinion that the Steinach vasoligature with vas deferens resection, for restitution of sexual activity in senile subjects, has not achieved what Steinach claimed for it.

According to the author, testicular transplantation has made a legitimate place in selected cases, where there is complete absence or functional loss of testicular secretion.

The "lanternization" technic of treating the testicle to improve lymph and blood supply, as developed by the author, is applicable where testicular secretional ability is failing but not entirely lost. It is indicated in certain forms of senility and in cases in which the system is suffering from an insufficient supply of testicular internal secretion (hypogonadism).

The "lanternization" operation has been done by the author in many cases during the past six years. It is a physiologic method and far superior to the Steinach operation, which is mutilating and unphysiologic; moreover, it gives, where indicated, encouraging clinical results without any known serious somatic or psychic complications.

In order to obtain the best results, the technic evolved by the author, as illustrated in other publications and in this article, should be followed with meticulous care.

A united effort to discourage the term "rejuvenation" is urged, in order to avoid misleading statements and inspiring false hopes in the breasts of those who are in search of the unattainable.

Thorek claims that the later albugineotomy of Steinach and similar procedures described by others are nothing more than his original "lanternization" method.

Medical Fees in Industrial Cases

There seems to be a rather general impression among physicians that, when they treat a patient who has been injured in an industrial accident, they must accept whatever fee is offered them by the man's employer or the insurance company.

In *Bul. Chicago Med. Soc.* for Aug. 31, 1929, Dr. F. L. Rector shows that this idea is erroneous and quotes a number of court decisions to show that neither an insurance company nor the Industrial Commission has any power or authority to interfere in such matters.

When an employee, under the Workmen's Compensation Act, is injured, either he or his employer may call a physician to attend him; and when the case is completed the doctor should send his bill to the person who engaged his services. If this bill is not paid, the physician has direct recourse to the civil courts for its collection.

Sodium Amytal in Obstetrics

Sodium amytal (sodium iso-amylethyl barbiturate) has been used extensively for the production of surgical anesthesia in animals and, to a limited extent (especially in Europe), in clinical practice.

In *Am. J. Obstet. and Gynec.*, Sept., 1929, Dr. A. R. Robbins and associates give their observations on the use of sodium amytal as an analgesic or anesthetic in more than 100 cases at the Indianapolis City Hospital and Dept. of Obstetrics of the Indiana University Medical School.

The drug may be given orally, intramuscularly or intravenousy in 10-percent solutions; the rate of intravenous administration should not exceed 1 cc. per minute. The patient drops off into what is apparently a normal sleep after 0.180 to 0.485 Gm. (3 to 7 grains) have been administered. Rarely does any excitement occur during the injection of the drug.

In the authors' cases, the best procedure, in the average 125-pound woman, was: Give 1/8 to 1/6 grains (8 to 10 mgm.) of morphine; 1/150 to 1/200 grains (0.4 to 0.3 mgm.) of scopolamine; and (intramuscularly) amytal, 0.390 to 0.585 Gm. (6 to 9 grains), when contractions are regular and are occurring at less than ten-minute intervals. The injection of sodium amytal was repeated as indicated. An intravenous injection was usually given at the beginning of the second stage, in amounts from 0.390 to 0.650 Gm. (6 to 10 grains). It was

administered slowly during several pains, stopping when the patient was well controlled. In some instances the patient's arms and legs had to be restrained in order to avoid disarrangement of the draping.

In most of the cases reported in this paper, the intravenous method of administering the drug was used.

As a preliminary report, the authors feel justified in drawing the following conclusions:

(1) The most serious objection to the use of sodium amytal as an analgesic was the difficulty in controlling the patients who became very restless.

(2) This drug has the advantage of being rapid in its action and of having a wide range of safe dosage.

(3) There has been no evidence of harm to the mother.

(4) Labor is probably not delayed.

(5) Labor may be rendered practically painless.

(6) Obstetric operative procedures are much more easily carried out under ordinary anesthetics when the operation is preceded by sodium amytal.

(7) Danger to the baby has not been proved.

(8) Prompt and complete control of eclamptic convulsions is possible.

(9) As a general anesthetic agent for cesarean sections and other obstetric operations and especially for patients having tuberculosis or toxemia of pregnancy, sodium amytal bids fair to supplant the inhalation anesthetics.

Technic of Gland Transplantations

Dr. H. Lyons Hunt, in *Endocrinology*, July-Aug., 1928, discussing his technic of gland transplantation, expresses a preference for glands taken from young sheep and rams to those from other animals. The glands are selected at the slaughter house and placed at once in a sterilized thermos bottle, into which blood from the animal's carotid artery is aspirated. The glands are removed from the bottle and placed in a 5-percent solution of acriflavine at a temperature of 105°F., for one hour, and are then used at once.

It should be kept in mind quite clearly that this operation is not strictly a transplantation, but a grafting of the skin to the tunics of the ovary or testicle.

In the case of the ovary, the right or left iliac region is chosen. The site (about 3 square inches) is treated with 2-percent novocaine (procaine), containing 1 cc. of epinephrin solution, 1:1,000, to the ounce, and a transverse incision about ¾ inch long, through the skin only, is made in the center of the area. A pocket, 1½ inches long at the top, is hollowed out subcutaneously, leaving no areolar tissue next to the dermis.

The animal ovary is bisected; a needle, threaded with fine silk, is passed into the pocket from its upper margin and through the tissues of the inserted gland, in such way that the tunics of the gland are sutured to the under surface of the dermis without any of it being immediately beneath the incision line; the incision is closed with a thread composed of silk and horse hair called "Cutis."

In the case of the testicle, the incision is 2½ inches long and the hollowed pocket is 3 inches square and extends 3 inches below the inferior border of the wound. The tunica externa is stripped from the piece of testicle to be inserted, but the other tunics are left. The testicle thus prepared is sutured to the lower surface of the dermis.

An ice-bag is kept over the wound for 24 hours. There is only a slight febrile reaction.

Radium in Skin Cancers

In *Urol. and Cutan. Rev.*, Sept., 1929, Dr. M. J. Sittenfield, of New York, dwells upon the advantages of radium over operative treatment of skin cancers in all stages. As a matter of fact, he considers it reasonably well established that many tumors, which are clinically highly malignant and give the poorest results with surgical excision, prove to be particularly responsive to radium and x-rays.

The radiosensitivity of a given tumor will determine the failure or success of the irradiation. Basal-cell epitheliomas are particularly favorably influenced by radium. It seems also that, in the squamous-cell type, radium, applied for long periods (say 8 to 10 days) in small doses, exerts a favorable effect. These groups have been brought to the domain of radiation and the clinical prognosis has changed from an almost hopeless one to a much more favorable outcome. Tumors with an adult type of cells, containing much connective tissue and clinically slowly progressive, are most radio-resistant.

The clinical information which has formerly been considered so very important gives little aid in the treatment of cutaneous cancer, unless it is combined with a knowledge of the resistant and sensitive elements in the neoplastic tissue. Thus, malignant skin lesions which clinically appear very serious, may present a hopeful solution, since they yield very readily to the radioactive agents.

The Face in Clinical Diagnosis

The following extract is from an article by Dr. J. C. DaCosta, of Philadelphia, on clinical diagnosis, in *Surg. Gynec. and Obst.*, Oct., 1929.

In estimating the reality, persistence and intensity of pain, study the *face*. For instance, in **acute peritonitis**, the face is set and contorted; the upper lip is raised, exposing some of the teeth; there is an expression of the greatest anxiety; the tips of the ears, the lips, and even the rest of the face may be cyanosed. Fothergill pointed out that, in pain *not* due to peritonitis, there is a marked twitching of the muscles about the eyes and the upper lip.

When a person has been a long sufferer from pain there is a heaviness and fullness about the eyes, the brows are contracted, the angles of the mouth droop and the expression is utterly weary and hopeless.

The expression of the face in children is extremely important. Professor Hobart A. Hare says: "It is not uncommon for an expression to pass over the face of a child while sleep-

ing, when suffering from pain, which begins with a smile and ends with a drawing-in of the corners of the mouth—an expression somewhat like that seen on the face of a waking child when it seems to be in doubt as whether to laugh or cry.

Whether asleep or awake, a child in pain, if not crying, has a pinched look about its nose and mouth and sometimes some idea of the seat of pain may be gained by the part of the face which is drawn. When pain is in the head, the forehead is apt to be wrinkled into a frown; if the nose is pinched and drawn, it is said to show that the pain is in the chest; and if the upper lip is raised, the pain is probably felt in the belly."

The face, of course, may indicate many things besides pain; for instance, alcoholism, the opium habit, tetanus, strychnine poisoning, tic doloreux, jaundice (the white of the eye and skin being yellow), anemia, cachexia of cancer, hyperthyroidism, hypothyroidism, menstruation, edema, Bright's disease, mouth-breathing from adenoids, acromegaly, paralysis of the facial nerve, etc.

In shock, there is deadly pallor; in most cases of advancing peritonitis, cyanosis; in poisoning by coal tar products, cyanosis; in exhausting diseases, pallor and emaciation. Cancer imparts a straw-yellow color to the skin, contrasting with the pearly white conjunctivae. This contrast at once indicates the diagnosis from jaundice.

In lobar pneumonia, the face is flushed and the flush is usually accentuated on one cheek. In cardiac disease there may be pallor or cyanosis, with distended nostrils and gasping respiration. In advanced sepsis the dull and apathetic face is ashy-pale or dusky, the lips mutter in delirium, and the teeth are covered with sordes.

Early Diagnosis of Mental Defect

Dr. A. Gesell, of the Yale Psycho-Clinic, New Haven, in *Arch. Neurol. and Psychiat.*, Sept., 1929, points out that growth development is profoundly conditioned by duration. The younger the organism, the more potent is any given unit of time in the economy of its development. In the rapidity of embryonal development, hours and days count; in infancy, months; in childhood, years. The amounts of growth in similar periods at different ages can be charted and will show a definitely proportionate retardation as time progresses. Relative growth may be prognosticated.

Mental development has the same significance as regards relativity and age. There are certain definite behavioristic developments in the normal child which correspond to age increments. Such behavior events are the symptoms of mental growth. They occur, not hit or miss, but in lawful accordance with the time-conditioned mechanics of development. By taking critical account of this biologic relationship between the small units of age and ordered units of behavior, it is possible to appraise the normality of tempo and trend in the infant's early development.

By the close of the first postnatal month the normal infant is already showing selective regard for his mother's face. In another month he follows her moving figure with his eyes. At the third month he can crudely manipulate a rattle. At the fourth month he closes in on a toy dangled above his crib. At 5 months of age he can pick up the toy on manual contact. At 6 months he reaches for it on sight. At 7 months he can scoop up a tiny pellet from the table. At 8 months he looks for a spoon fallen out of sight. At 9 months he combines a cup and spoon in play. At 10 months he plucks a pellet with precise pincer prehension. At 11 months he pokes a rod in a hole. At 12 months he articulates one or two words.

The author has drawn up a graded syllabus of 135 items of behavior covering the first year of mental growth—approximately a dozen items for each succeeding month. By means of this syllabus it is possible to make objective clinical estimates of mental retardation and deficiency in early life.

Ovarian Insufficiency

In Illinois Med. Jour., Nov., 1929, Dr. Jas. H. Hutton, of Chicago, gives the following symptoms as those occurring most frequently in ovarian insufficiency.

Dysmenorrhea; abdominal pain near the periods, especially in the right lower quadrant; nausea and vomiting, resembling that occurring in the early months of pregnancy; menstrual headaches; irregularity in the character of the flow and in the pain that accompanies it, as well as irregularity in the periods; numbness of the extremities, especially at night; mental depression; mental and physical sluggishness at the periods; lack of strength and endurance, not due to other causes; amenorrhea relative or absolute (sometimes); colds or sore throats occurring at the menstrual periods; acne.

Treatment should be by hygiene and the administration of ovarian preparations, orally or parenterally.

Dr. Hutton remarks that results have justified the empiric use of ovarian extracts. The clinician should not refuse to use them merely because physiologists announce that their knowledge of ovarian function is incomplete and that ovarian preparations available now are less desirable than they are apt to be in a few years hence.

Oxygen Administration Through Nasal Catheter

Dr. A. L. Barach, of New York, in J.A.M.A., Nov. 16, 1929, suggests the possibility of securing 38 percent oxygen in inspired air by a nasal catheter connected with an oxygen chamber. There are many therapeutic indications.

A No. 10 French catheter is used. The terminal inch is perforated with 6 small holes. As the oxygen causes a burning sensation in the mucous membrane of the nasopharynx, precaution should be taken against the catheter being pulled out.

The catheter should be placed in position by a physician or instructed nurse. It is passed along the inferior surface of the nasal cavity until

it strikes the posterior surface of the nasopharynx then withdrawn one-half inch, passed over the forehead or cheek and fastened with adhesive tape.

When more than 3 liters a minute of oxygen is employed, it is usually more comfortable to insert a catheter into each nostril and connect them over the forhead by a Y glass tube. The use of high-pressure oxygen tanks is the only method of securing a constant rate of flow, and a gage is necessary.

A Rapid Method for Skin Tests with Pollen

In *J. Lab. and Clin. Med.*, July, 1929, Dr. J. P. Henry, of Memphis, gives the following rapid and convenient method of carrying out skin tests with pollens.

Two-percent solutions of all the usual pollens are prepared. Five (5) cc. of each solution is transferred to sterile 15 cc. bottles, provided with glass pipettes and heavy rubber nipples, to keep them tightly stoppered when not in use.

The bottles are arranged in trays furnished with holes in which they fit. The trays are of a size to fit in an icebox. One tray contains grass pollens and another tree pollens. About 30 bottles can be held in each tray.

Mimeographed sheets are used in recording readings. The various pollens are listed on these sheets in the exact order that the bottles are arranged in the trays. All that is necessary as each test is made is to fill in "O", "+", "+ +", and so on for each pollen. The sheets are the same size as ordinary history sheets.

The author states that 50 tests can be performed in 20 minutes at most.

No dilution of the extract occurs as when using the one-syringe method of withdrawing solutions from rubber stoppered vials.

Diagnostic Importance of Physical Examination

In *Mil. Surg.*, Oct., 1929, Brig. Gen. W. S. Thayer, Med. Res., U. S. A., writing from his experience as an army surgeon, reaches the following conclusions:

1.—That no advance which has come to us in the last hundred years has replaced the necessity of a good, fundamental training and experience in the art of physical diagnosis, to which all the newer technic is but complementary.

2.—That these complementary methods of investigation, while greatly increasing our diagnostic powers, have, in no way, simplified medical practice.

3.—That while they add to the detail and complications of practice of one who can seek all the assistance that he will, yet the information that they have brought to us has increased greatly our ability to interpret that which we can appreciate with our five senses.

4.—That there is little which is absolute or final in medicine, unless it be death.

5.—That the human element is inseparable from the practice of the medical art.

6.—That the fundamental elements in medical education today, as a hundred years ago, are a good knowledge of anatomy, of physiology, of pathology in its broadest sense, and training and experience in the art of physical diagnosis in its strictest meaning.

7.—That he only who has studied his patient at the bedside can properly interpret or profit by information gained in the laboratory or by the application by others of instruments of precision.

8.—That the army surgeon who, more than any other class of physician, must stand upon his own feet, should be, above all other things, skilled and experienced in the art of physical diagnosis in its restricted sense; that is, in his powers of observation, palpation, percussion and auscultation, and able properly to interpret and act upon the information which he gains therefrom.

The Value of Medical Writing

Dr. Jas. M. Troutt, Major, M.C., U.S.A., in *Mil. Surg.*, Oct., 1929, expresses the opinion that the value to the author of medical writing lies chiefly in the extensive study, reading and review of contemporaneous and early literature which preparation for the actual writing necessitates. That is to say, that the subjective worth far outweighs the objective rewards of recognition and widened acquaintance, and is conditioned only by the amount of time and effort expended in preparation of the paper. The fact that one does write and continues to write is of greater importance than what he writes, how he writes or whether his writings are accepted for publication.

Medical writing develops a scientific attitude of exactness as to facts, as well as an appreciation of the differential value of fact and theory.

The mental discipline inculcated by medical writing engenders the habit of intellectual independence, leads to clear and logical thinking and cultivates a simple mode of expressing thought.

Publication of an article in a reputable medical journal accords recognition of the fact that the author is a student, who is acquainted with the progress of recent developments in the subject about which he is writing, and one who aspires to increase the total of knowledge and experience thereon.

Methenamin in Urinary Incontinence

Drs. L. Caffé, Bainglas and Comsa, of Paris, in *Presse méd.*, Paris, Sept. 14, 1929, report that urinary incontinence has become almost exceptional in their hospital patients following treatment by urotropin (methenamin).

A solution of 1 Gm. of methenamin in 5 cc. of water is used and injected intravenously in dosage of 1 to 4 Gm. each day. Usually 3 injections, each 1 Gm., are made, following which the incontinence is observed to disappear or, if it persists, the daily injection may be increased to 2 or 3 Gm.

Patients with old-standing paraplegia, hemiplegia, etc., were successfully treated in this way without recurrence of the incontinence; but

in some cases there was recurrence and in others there was only a temporary or no effect.

The action of the methenamin is thought by the authors to be an irritation of the bladder mucosa which acts reflexively upon the sphincter.

Birth Control in Germany

Centers for the dissemination of advice on sex matters and marriage problems, as well as Birth Control Clinics, have been established in various parts of Germany and are constantly multiplying. They are under the auspices of medical and lay management. There is no legal restraint in the giving of such advice, either verbally or in writing. The entire future of birth control in Germany depends somewhat upon the political situation, which at present is favorable; but Fascism or any other reactionary movement may interfere very greatly with its progress.—Dr. J. F. Cooper, in *Birth Control Review*, Oct., 1929.

Transpulmin in Catarrh Accompanying Pulmonary Tuberculosis

In *Die Tuberkulose*, Nov. 5, 1929, Dr. Jos. Poras, of Vienna, observes that catarrh is associated with pulmonary tuberculsis more frequently than is generally assumed and is found in the stage of the disease in which it is impossible to locate the specific focus with certainty; he suggests also that this catarrh and its symptoms form an important indicator for the occurrence of new exacerbations of the disease.

Poras does not think that mixed infection in pulmonary tuberculosis is of special clinical significance, but he believes that energetic attempts should be made to remove catarrh promptly. Local measures should be the most important factor in this therapy.

Poras has found Transpulmin (Quicamphol), a solution of quinine and camphor in volatile oils, most effective for this purpose. It is injected daily (one dose) into the gluteus muscle, commencing with 1 cc. and increasing by 0.5 cc. each day, continuing the treatment for weeks in such a way that the average maximal dose (3 cc.) is continued for a sufficiently long period. Then the dose is reduced by 0.5 cc. daily. The course of treatment may be repeated after a pause of several months.

Besides its local effects in reducing the temperature and sputum, Transpulmin has a beneficial general systemic action.

In 11 cases recorded, definite improvement was noted, and the author is satisfied that the administration of Transpulmin in the treatment of the catarrh accompanying pulmonary tuberculosis is a useful therapeutic method.

Clinical Significance of Spirograms

Dr. P. Roth, of Battle Creek, Mich., in *Arch. Phys. Therap. X-Ray, Radium*, July, 1929, stresses the importance of spirograms in clinical medicine. Spirograms are graphic representations of the inspiration and expirations, as recorded by the spirometer. All persons can be divided, purely on the basis of their spirograms, into about nine types. Six of these respiratory types are hereditary, and the others are more or less influenced by the endocrine traits.

According to spirometric findings, certain individual characteristics and disease processes are shown to be of an hereditary nature and, as the hereditary predispositions to certain diseases can be determined in early childhood, the application of this work to preventive medicine is, the author thinks, obvious.

High-Frequency Currents in Skin Diseases

In *Urol. and Cutan. Rev.*, Sept., 1929, Dr. W. K. Sibley, of London, Eng., states that high-frequency currents are undoubtedly of therapeutic value in a number of common skin diseases, when scientifically administered.

The applications are usually made through a glass vacuum electrode held in contact with the skin, the affected areas being slowly brushed over and only slight pressure being applied. A solid metallic electrode may also be employed.

The high-frequency current, so applied to the anal region in cases of hemorrhoids, both internal and external, will rapidly relieve the pain and distress. The treatment is repeated two or three times a week, for from ten to twenty minutes each time.

The skin conditions for which the treatment is useful are the various dry eczemas, pruritus, certain acnes, neuralgic skin affections of the herpes type, chronic skin ulcers and alopecia.

The Enzymoreaction

In *Presse méd.*, Paris, Aug. 10, 1929, Drs. L. Sivori, U. Rebaudi and I. Menniti describe a new scientific diagnostic method; viz., the enzymoreaction. This is a further development of Abderhalden's theory of ferments, which is based on the conception that the introduction of a foreign protein into the body immediately calls forth the production in the serum of a special proteolytic ferment which digests the introduced protein. Abderhalden's theory, however, deals only with integral proteins, but the authors have succeeded in arousing the specific enzymatic production with split proteins, or proteins which have passed beyond the peptone stage. This is to say that specificity is not associated with an integral protein alone, but that it still exists when the protein molecule has passed the peptone stage; a split specific protein or antigen will elicit the specific enzyme.

The enzymoreaction is elicited when an individual's serum is brought into contact with the specially prepared disintegrates of specific proteins. These disintegrates or diagnostic antigens are specially prepared by hydrochloric-peptic digestion, following which they are alkalinized and ready for use in testing serums.

Although the enzymoreaction has a number of practical diagnostic applications—in tuberculosis, syphilis, etc.—the most important claim for it is, perhaps, in the study of neoplasms. The authors claim that specific enzymes are more abundant in the serum of patients with

neoplastic disease in the early, rather than in the late sages. As the disease progresses the tendency is for specific enzymes to diminish and disappear. Hence there is a possibility of early diagnosis, the identification of the specific enzymes being easier the earlier the stage of the disease. The authors have been able to verify this by the study of experimental sarcoma in rats.

The important contribution to the theory of ferments by the authors' work is that the biologic specificity of a protein substance is preserved during the process of its disintegration.

Ocular Injuries and Types of Spectacle Glass

Dr. J. M. Patton, of Omaha, in J.A.M.A., Oct. 19, 1929, points out that, owing to definite educational propaganda regarding the value of ocular protection, the number of ocular injuries in large industrial plants has been vastly reduced. Most injuries that occur now are in small shops and among individual workers.

There can be no question regarding the protective value of spectacles. But there is the valid objection often raised that, if the glass lens is broken, fragments may cause serious injury to the eye. Various types of "non-shatterable" glass have been put on the market. The author has subjected a number of these to severe tests, and has found that laminated glass affords the maximum of ocular protection. This should be used for all persons exposed to eye hazards. Tempered glass is also much superior to ordinary optical glass.

Phenobarbital in Epilepsy

Dr. R. R. Grinker, of Chicago, in J.A.M.A., Oct. 19, 1929, on the basis that the "convulsive threshold" of epileptic patients varies enormously, is of opinion that the dose and time of administration of phenobarbital cannot be standardized, but should be fitted to the individual patient. Every such patient is a distinct problem and dosage must be determined by the "trial and error" method.

The seizures may occur with a certain rhythm, nocturnally or diurnally, or they may be very irregular. When nocturnal, the phenobarbital should be given, as is customary, after the evening meal, starting with 1½ grains (0.1 Gm.) If the seizures usually occur in the forenoon, the drug should be given in the early morning; if in the afternoon the drug is given at noon.

When the seizures occur frequently and severely, a daily dose of 1½ grains (0.1 Gm.) may not be enough and the single dose may be increased to 2 or 2½ grains (0.13 or 0.16 Gm.), and if the "convulsive threshold" is still low and seizures break through, the drug should be given twice daily after meals, gradually increasing each dose to 2, 2½ or 3 grains (0.13, 0.16 or 0.2 Gm.) three times daily. This applies also to convulsions occurring irregularly at any time.

In intractable cases, phenobarbital should be combined with sodium bromide in solution.

When the proper controlling dosage of phenobarbital is arrived at, it should be continued indefinitely. The drug is not habit-forming.

Prevention of Deafness

According to Dr. H. Newhart, of Minneapolis, in J.A.M.A., Oct. 12, 1929, audiometric tests of school children in twenty large cities show that a respectable percentage of them have defective hearing. From the tests, the writer concludes that the periodic testing of the hearing acuity of school children with the audiometer, by revealing the early loss of hearing, is at the present time the most effective means of initiating measures for the prevention of deafness and the conservation of hearing among school children.

The greatest need of the movement, now well under way, is the interest, active cooperation and leadership of the physician, especially the otolaryngologist. The movement would be greatly expedited by the inauguration of a well directed campaign of publicity, calling attention to the value of periodic hearing tests and to the possibilities of prevention of deafness.

Injections of Acacia in Shock With Hemorrhage

Dr. L. M. Randall, of the Mayo Clinic, in J.A.M.A., Sept. 14, 1929, reports definite benefit in 14 cases of shock and hemorrhage during and after delivery, treated with intravenous injections of a solution of acacia. The solution has been used at the Mayo Clinic in some hundreds of cases of shock without untoward effects.

The solution of acacia, 6 percent, in solution of sodium chloride, 0.9 percent, is prepared as follows:

Four hundred and eighty (480) Gm. of acacia (pearl lumps, No. 1, extra quality) is ground in a mortar, placed in a large beaker and dissolved by successive additions of hot, triple-distilled water. When all of the gum has been dissolved, 72 Gm. of sodium chloride is added and the solution is made up to a volume of 8 liters in a pyrex flask of 12 liters' capacity. This solution is then autoclaved for one hour, on four successive days, care being taken to prevent excessive foaming. At the end of this time, the solution is clear and a small amount of flocculent precipitate is separated out. The clear solution is siphoned off, under sterile conditions, into bottles which contain from 800 to 1000 cc.

The acacia solution when prepared may be kept in the ice chest for from 60 to 90 days and used with safety. It is then simply taken out and heated to the temperature for injections.

The injection is carried out, preferably by the gravity method, in much the same way as any other intravenous medication. A large-bore needle or cannula is used, and, as the patient is in a critical condition, it may be well to expose the vein. From 25 to 40 cc. is given each minute until from 500 to 1000 cc. has been injected.

The experience of the author and that of others would indicate that this solution has definitely established itself in the treatment of

shock and hemorrhage. It apparently fulfils all the requirements for such treatment, except furnishing erythrocytes.

Heat Treatment of Pyogenic Infections

In pyogenic infections, the prime indication is, not the relief of congestion, but for hyperemia, much exudaton of lymph and active migration of leukocytes. The increased number and the more active movements of leukocytes lead to an increased phagocytosis. The increased quantity and the more active circulation of the serum bring to bear on the invading organisms more opsonins, lysins and antitoxins. It is on these and the phagocytes that the body depends in overcoming infections.

The clear, incandescent lamp is a preferable method of applying heat locally; but hot air, the hot water bath or the whirlpool bath may be used.—Dr. A. C. Salmon, Battle Creek, Michigan, in *Arch. Phys. Therap., X-Ray, Radium*, Aug., 1929.

Transmitting Power of Glass for Ultraviolet Rays

It has been generally understood that the several special types of glass which permit the passage of ultraviolet rays, lose a certain percentage of this property when exposed to sunlight or to the rays from a quartz-mercury lamp, and the latter method has been used, in order to save time, for testing the degree of such loss, due to "solarization."

Recent eperiments, reported by Wood and Leathwood, in *Nature* (London) for Sept. 21, 1929, indicate that this method is unsatisfactory, in that it produces a higher and more permanent degree of solarization than that resulting from natural sunlight.

On the other hand, the artificially solarized glass, when exposed to natural sunlight, regains a certain part of its permeability to ultraviolet rays.

Here are reports of some of the experiments and their results:

1.—When kept in the dark, glasses solarized by the quartz-mercury lamp do not regain any of their lost transparency.

2.—Glasses thus solarized, when exposed to sunlight, regain some of their lost transparency.

3.—Glasses thus solarized, when covered with ordinary window glass and exposed to sunlight, regain some of their lost transparency.

4.—Glasses thus solarized, when covered by a thick layer of ordinary window glass, and further exposed to the mercury vapor lamp, regain a similar amount of their transparency quite rapidly, the change being more rapid with a thick than with a thin covering of ordinary glass.

Two pieces from the same sheet of ultraviolet glass were now taken. One of them was solarized completely by the quartz-mercury lamp. Both were exposed during very fine weather to ordinary sunlight on the top of a building. The original, untreated piece of glass, the transmission of which was 58½ percent, was tested every day, and was found to have attained an almost steady state (46 percent) in six days, of which two days had been dull, producing no change. After these six days the change in the glass was very slight indeed, the final transmission figure, after several weeks, being 45 percent. The artificially solarized sample, the transmission of which was 33 percent at the commencement of this experiment, was found to have improved in transmission during six days up to 43½ percent. After 24 days the transmission was 45 percent, and after 32 days it was still 45 percent.

The authors consider that these figures prove conclusively how completely misleading has been the use of the mercury vapor lamp by investigators to determine the loss in transparency of glasses when exposed to natural sunlight.

Substitutes for Circumcision

In *M. J. and Record*, Aug. 21, 1929, Dr. R. I. Bromley, of Sonora, California, describes two substitute operations for circumcision.

In the first, an ordinary silver probe is taken in the right hand and with the left the foreskin is drawn back as far as possible. The probe is then insinuated between the glans and foreskin, about the center, and coaxed back until the blunt point is seen or felt as far back as the base of the glans. It is then gently worked laterally, first to one side and then to the other, so as to break down the adhesions between glans and prepuce. In doing this the point of the probe should be worked round as far as the frenum on either side, and in bringing it out care should be taken to break down the adhesions which surround the orifice of the prepuce. When done successfully, the foreskin can be drawn back to the base of the glans easily. The surface should then be cleansed and smeared with carbolized oil and the foreskin drawn forward again.

In the second method a grooved director holds the prepuce tense and an incision is made from behind forwards in the mucosa of the prepuce, also the submucous tissue (the back of the knife resting in the groove of the director), *not the whole thickness of the prepuce*. When the latter is pulled back it uncovers the glans; the incision thus becomes horizontal and is closed at two or three points by fine catgut sutures and a dressing applied to the small, transverse wound back of the uncovered glans.

Epilepsy in Children

In *Am. J. Dis. Child.*, Sept., 1929, Dr. I. McQuarrie and Clara M. Husted, of Rochester, N. Y., report the results of certain studies of epileptic children, in which they found that the superficial relationship between water balance and the occurrence of seizures has been determined under various conditions.

There appears to be a tendency for the epileptic subject to retain water during the active phase of the disease, in amounts which are harmful. Convulsions tend to occur when a positive water balance, above a certain magnitude,

is established. When diuresis follows the seizure, it favors the prevention of further seizures temporarily. Whether this effect of the extra water is due solely to changes within the brain cannot be said as yet.

Procedures, such as fasting, the use of ketogenic diets and stringent restriction of water with non-ketogenic, borderline diets, lead to partial dehydration of the tissues and prevention of seizures. Suddenly increasing the intake of water during the course of treatment by dehydration tends to cause recurrence of seizures, at least in the severe cases.

Parenteral administration of solution of pituitary, or of the antidiuretic hormone of hypophysis, causes the development of a positive water balance and the occurrence of seizures in the epileptic subject. Urea in large doses causes loss of the retained water.

A disturbance in water balance, perhaps affecting the central nervous system more specifically, appears to be closely identified with the etiology of epilepsy.

State Medicine Means Nullity

Dr. C. B. Reed, President of the Chicago Medical Society, in his inaugural address, published in the *Illinois M. J.*, Oct., 1929, expresses his opinion that State Medicine means regimentation and nullity. The patient has no voice in the selection of his physician, nor the physician in the selection of his patient. Where the State assumes authority, the profession will fall under the thumb of the politicians.

The most pressing problem today in Medicine is to protect professional freedom against the encroachments of socialism and the State. The state cannot cure disease by legal enactments.

The dangerous tendency of legalized authority to usurp power in other pursuits is now unfortunately evident in Medicine. The consequences have been bad elsewhere—they will be disastrous in Medicine.

Suction Tonsillectomy

Dr. J. B. H. Waring, of Cincinnati, in *Illinois M. J.*, Oct., 1929, states that suction tonsillectomy has been developed with a view to the elimination of the difficulties and dissatisfaction of the older tonsillectomy technics and in order that the average operator may be able to remove any and all types of tonsils cleanly and easily, in the capsule, in a rapid and bloodless enucleation.

Any good suction pump, a tonsil snare, a tongue depressor and a set of three sizes of tonsil tubes comprise the basic equipment. The air pump should be foot-switch-controlled, with a gauge and regulatory device. The tonsil-enucleating tubes are of glass, connected by a rubber tube to the pump, and the tube mouth is applied to the tonsil much as the Sluder loop is used.

The fundamental concept in the procedure is that the suction, applied through the air pump and foot-switch, instantly lifts the tonsil from its fossa, the pillars being left behind out of harm's way. When the tonsil is bound down by adhesions, repeated tugs, by alternately starting and stopping pump action with the foot-switch, will slowly stretch adhesions and the tonsil will slowly slip into the tube mouth. When the tonsil is completely lifted out from its fossa in its capsule, the tonsil snare is applied in the usual way and the tonsil is removed.

This technic is very easy, so that any operator of average ability can master it. The operation can be done in the office or in the home, under local anesthesia. There is no hemorrhage, and postoperative lung abscess is practically unknown after this method.

Retrodisplacements of the Uterus

Dr. Reuben Peterson, University of Michigan Medical School, Ann Arbor, in *Ohio St. M. J.*, July, 1929, from an analysis of the records of his hospital since 1901, states that the percentage of gynecologic patients showing retrodisplacement of the uterus has decreased by about half. This he attributes to improved bodily characteristics of the present-day clinic population, as well as to better care at childbirth.

Also the percentage of cases operated upon has been diminished by about half, due to a better selection of the types of cases that can be benefited by operation.

Retrodisplacements fall into two categories; the uncomplicated, in which there are no associated pelvic lesions; and the complicated, in which there is a weakened pelvic floor or a uterus and appendages the seat of puerperal or gonorrheal infection, etc.

Dr. Peterson thinks that the treatment of each type is radically different. The complicated case should be treated surgically—plastic operation, removal or treatment of infected appendages and, if necessary, a hysterectomy in indicated cases. Operation upon the round ligaments, for the purpose of maintaining the position of uterus, is an incidental operation or, better still, an associated operation.

Definite pelvic disease must be taken care of. Surgery is only one part of the treatment; in addition to it, every form of treatment which may give the woman a well-balanced, healthy body should be employed.

Rectal Examination in Gynecology

Dr. G. L. Moench, in *Med. Rev. of Rev.*, Sept., 1929, asserts that the digital bimanual examination of the female genitalia per rectum, if properly carried out, is not only eminently satisfactory, but at times even more instructive than examination by the vagina.

The reason why such examinations have been considered unsatisfactory or painful is that examiners have not trained themselves properly to make them. Both hands must be used and only the index finger relied upon. It is necessary to reach high enough in the rectum. When expert, one can explore the area above the sacrouterine ligaments on both sides and feel the cardinal ligaments, the ovaries, tubes and adnexal regions in toto, including the *ligamentum ovarii proprium*. Practically the whole posterior surface of the uterus, the wall of the pelvis and fre-

quently the pulsations of the iliac artery can be felt, and towards the anterior portion of the pelvis, it may be possible to reach almost to the horizontal ramus of the os pubis.

Since the rectal wall is much thinner than the vaginal wall, details can be felt better than through the vaginal route. Certain lesions (malignant disease or pseudomyxoma of the peritoneum) can be appreciated properly only through the rectal wall.

Diagnosis of Gonococcal Arthritis

Dr. O. H. P. Pepper, of Philadelphia, in *Ann. Intern. Med.*, Oct., 1929, discussing the diagnosis of gonococcal arthritis, remarks that the methods in use are unsatisfactory when used singly, but that, combined, they will usually prove sufficient.

Gonococcal arthritis is usually a polyarthritis which may so closely resemble rheumatic fever as to lead to diagnostic error. When an acute arthritis develops during acute gonorrhea, the diagnosis may be safely and easily made. Otherwise, the history and clinical features must be relied upon and the x-ray picture will often be of great aid.

It is the rule that, if gonococcal arthritis is to occur in an individual, it will usually appear with the first gonorrhea and, having once occurred, will recur with each fresh gonorrhea.

In regard to the character of the arthritis, as already mentioned, it is usually polyarticular. It is accepted today that the temporo-mandibular and sterno-clavicular joints are often involved in gonococcal arthritis but seldom, if ever, in rheumatic fever.

The appearance of endocarditis during or soon after an arthritis argues strongly for a rheumatic process.

As a rule, leukocytosis will be greater in rheumatic fever than in polyarthritic Neisserian arthritis.

Two distinct x-ray joint pictures are produced by gonococcal infection. They correspond to a specific gonococcal arthritis or to a non-specific, infectious arthritis. One is a chronic deforming arthritis, with both hypertrophic and atrophic changes, and this type may not be differentiated from the x-ray picture alone. It corresponds to the non-specific form.

The other form is an acute destructive process, analogous to that produced by streptococci or pneumococci, but a little less rapid. Such a picture, occuring in a case lacking the history of a serious streptococcic or pneumococcic infection, strongly suggests a gonococcic etiology.

The Heart in Surgery

A study by Dr. H. A. Sprague, of Boston, reported in *Surg. Gynec. and Obst.*, July, 1929, shows that during the past 10 years, 192 surgical operations were performed in the Massachusetts General Hospital upon 170 patients with cardiac lesions. Of these, 42 died during or following operation, but only 5 died suddenly on the operating table.

Analysis shows that age is the most important factor in mortality: two-thirds of the deaths occurred in patients over 50 years old.

Patients with rheumatic heart disease and normal rhythm, without congestive failure, can be operated upon with little danger.

Cardiac patients, except those with syphilitic aortitis or advanced coronary disease, are not likely to die suddenly during operation.

The presence of auricular fibrillation increased the danger of death from operation in arteriosclerosis cases only from 34 to 37.5 percent; but in a small series of rheumatic heart cases from 8.8 to 22.2 percent.

The author agrees with a saying of Ochsner's that cardiac patients are safe because surgeons consider them especially unsafe, and because they get greater care on that account.

Iodoxyquinolin Sulphonic Acid in Amebic Dysentery

The treatment of amebic dysentery by iodoxyquinolin sulphonic acid **(Yatren)** was introduced into Europe and first reported upon in 1921. Since then a fairly extensive literature has sprung up on this subject.

In *J.A.M.A.*, Aug. 24, 1929, Drs. P. H. Jones and R. H. Turner, of New Orleans, report upon 64 cases treated by them with this drug. One (1) Gm. was given by mouth three times a day during the first and third weeks; none was given during the second week. Forty-two Grams (42 Gm.), therefore, constituted a course of treatment. Observation of the patients has extended over a period of from 1 to 3 years.

In practically every case there was a prompt and satisfactory response to treatment as regards the dysentery. The response of children receiving doses in proportion to age was similar to that of adults.

Rectal ulcers healed in from 7 to 14 days.

No toxic manifestations were noted.

The stools of 10 patients were examined for cysts some time after completion of the treatment and 9 were negative.

Ninety (90) percent of the patients with a satisfactory followup are symptom-free from one to three years after treatment. In the remaining 10 percent, further treatment with iodoxyquinolin sulphonic acid was apparently efficacious.

Removal of Broken Spinal Anesthesia Needles

Spinal anesthesia needles, even of the rust-proof, flexible type, occasionally break in the spinal canal. In *J.A.M.A.*, Aug. 17, 1929, Dr. F. H. Lahey, of Boston, gives a method for the removal of the part left in the canal.

A general or another spinal anesthesia is usually necessary.

The point of puncture by the broken needle on the skin should be marked by a small skin cut. Next a generous longitudinal incision is made directly over the spinous process. The aponeurosis over the erector spinae on each side is incised for the full distance of the skin incision, the muscles on each side being separated well down and a little outward on the laminae of the vertebrae. With this exposure the index

finger may be gently carried down the laminae on each side of the spines, over the interspace in which the needle rests, and its broken end palpated, grasped with a right-angled hemostat and withdrawn, unless the end rests directly between and beneath the spinous process. Should this be the case, with the erector spinae muscles on each side well retracted, the points of a right-angle hemostat, with the jaws opened, are passed between the spines, the interspinous tissue is gently grasped and upward traction made on it until the needle is found.

Foreign Proteins in General and Ocular Infections

In *Northwest Med.*, Sept., 1929, Dr. Jas. M. Patton, of Omaha, gives his clinical experience in the use of foreign proteins (limited almost exclusively to milk and typhoid vaccine) in the last 12 or 15 years.

The intramuscular dose of boiled milk varies from 2 to 3 cc. in robust, young adults. The initial dose of vaccine for robust young adults is 20 million.

Milk is used in the average case of ocular inflammation; vaccines or serums in the more serious conditions or for those who do not respond to milk.

The therapy has been found of special value in iritis, cyclitis, etc.; corneal inflammations and gonorrheal infections of the conjunctiva. It has never been used to the exclusion of other forms of therapy and it is definitely excluded in cases of diabetes, alcoholism, pregnancy and generally lowered resistance.

In acute infections of the anterior segment of the globe, with severe pain, this form of therapy is of definite value.

Squint

In *Am. Med.*, Sept., 1929, Dr. B. F. Royer, of New York, points out that some doctors are prone to advise against the early treatment of squint in children, with the result that what might have developed as good vision, with proper training begun at the age of two or three years, is apt to be very poor vision at the sixth or seventh year and is not likely ever to be improved greatly by late training.

Correction of refraction errors, occlusion of the good eye or blurring of the vision of the good, fixing eye, to force use of the defective eye and so improve its vision, are valuable aids. Treatment should continue for several years, directed, in general, by a consulting ophthalmologist.

In the same journal and issue, Dr. L. H. Schwartz agrees that the treatment of squint is primarily and principally non-surgical. Proper glasses must be worn at the earliest age possible. Binocular fusion should be encouraged by muscle exercises and, when this is not successful, and only then, should operation be tried. Operation should be performed at the age of 4 years, under general anesthesia; but when surgery is used merely for cosmetic reasons, if may be deferred to the fourteenth year. No operation will restore sight in amblyopic cases. The great thing is to institute the proper care of the cross-eyed child early and before the school age, and family doctors should insist upon this.

Malarial Therapy in Neurosyphilis

Dr. H. H. Reese, in *Am. Jour. Syphilis*, July, 1929, states that in only few cases was "exceptional resistance" to malaria encountered. In reinoculations, after 8 to 15 months, in order to make sure of a "take" with a second inoculation, it is recommended to inject 10 cc. of malarial blood intravenously and 10 cc. subcutaneously at the same time.

If the malarial infection is induced, cardiac stimulants are administered after the third to sixth chill, even if the patient is in good physical condition. Also, in order to modify the severity of the reaction, the author gives daily or on alternating days, 1 or 2 grains of quinine. The doses of quinine should not be enough to kill the plasmodia.

Organic metabolic diseases, such as nephritis, diabetes, etc., or circulatory diseases, are contraindications to malarial therapy.

The fact that the State Hospital with which the author is associated felt justified in discharging 23 out of a group of 83 general paretics, shows that malarial therapy, combined with specific medication, is efficient.

Endocrine Regulation of Reproduction

In *Endocrinology*, July-August, 1929, Dr. Oscar Riddle, of the Station for Experimental Evolution, Cold Spring Harbor, N. Y., states that the known facts indicate that, in the higher mammals, the essential aspects of the mechanism of reproduction are not under the direct or immediate control of nerves, but of the organs of internal secretion.

It seems probable that the true hormones may be best regarded as agents devised primarily for regulating activities and coordinations incident to the essential rhythms, especially those of reproduction.

The Medical Profession and Publicity

In recent issues of the *Bull. Chicago Med. Soc.*, there are some interesting items on publicity. In the *Bull.* of Sept. 21, Dr. N. S. Davis III considers that the work and aims of the profession should be brought to wide public notice. No commensurate results would be obtained from costly newspaper and magazine advertising on a national scale, but publicity could be secured by obtaining the assistance of those who know how to get articles giving the aims and views of the profession into newspapers and periodicals, who know the psychology of the masses and who know how to write articles so that they will be read by those to whom they are directed. The profession should direct the publicity and foot the bills.

In the *Bull.* of Nov. 2, Tom Wallace, draws an ethical parallel between journalism and the medical profession. He says that a fundamental necessity for any organization or profession to retain public confidence and respect, is the right to expel members for cause. High ideals of service in any public body can only be maintained when the abuser of trust is punished by the exercise of this right.

Pre-Anesthetic Examination

In *Canad. M.A.J.*, Oct., 1929, Dr. F. W. Leech draws attention to the necessity of a preoperative investigation of the surgical patient by the anesthetist. In such way he will enhance his position in the surgical teamwork and, in the case of the patient who is anemic, or has deranged liver or cardio-renal function, the anesthetic and surgical risk will be decreased.

An important matter in this investigation is the estimation of the percentage of hemoglobin and the number of red blood cells, as, during anesthesia, there is a definite suboxidation or anoxemia, in direct proportion to the degree of anesthesia. If the percentage of hemoglobin is low and the red blood cells are reduced in number, the margin of safe anesthesia is proportionately reduced. It is generally conceded that no patient with a hemoglobin index below 60 percent and a red blood cell count below 3,500,000 per cmm. should be given an anesthetic, except in an emergency.

A method of estimating the stability of the heart is the "energy index"—systolic pressure, plus diastolic pressure, multiplied by pulse rate. If the resultant figure (considering only the thousands) lies between 12 and 18, the patient is considered a safe operative risk.

The multiple and varied untoward effects of the different anesthetic agents are decidedly reduced by administering sufficient suitable preliminary medication.

Colles's Fracture

In an article in *Med. J. and Record*, Oct. 16, 1929, Dr. E. J. Garvin, of Philadelphia, points to the two important particulars to be observed in regard to the carpal arch in Colles's fracture: (1) That the radial styloid lies distal to the ulnar styloid; (2) that the dorsal articular surface of the radius lies distal to the palmar articular surface.

If a good reduction has been secured, the dressings are simply changed, a bond splint or a plaster cast applied and the patient told when to return.

The moulded plaster cast seems to be the preferred retention apparatus, for two reasons: First, because it is moulded to the arm and can be made to fit any arm, while a splint does not always fit and cannot be adjusted; second, the proper amount of flexion and ulnar abduction to suit the case can be secured and one does not have to rely on a certain fixed amount, as one does with a splint.

Light massage should be started at the end of one week; passive motion of the fingers is started at the end of two weeks and of the wrist at the end of three weeks.

Physical therapy should follow the removal of the splint in all cases of Colles's fracture.

Bee Stings

Dr. G. Bartholomew in *Journal Lancet*, July, 1929, expresses the opinion that probably more persons die in the United States every year from bee stings than from snake bites. The cause is anaphylactic shock, in those who are susceptible.

Persons who are about bees become more or less immune after having been stung a few times; or they may be resensitized by making an extract of the bee stings and injecting very small but gradually increasing doses of the toxin.

For the control of the local pain of a bee sting, the best thing so far found is a paste made of laundry soap and soda applied to the wound; a wet dressing of magnesium sulphate is also useful.

Local Anesthesia in Rectal Operations

Dr. J. F. Saphir, of New York City, in *Am. Med.*, Sept., 1929, states, following his experience in a large series of cases, that the best and most reliable method of producing local anesthesia for operations upon the rectum and anus lies in circuminjecting the anus. A one-half percent novocaine (procaine) solution, with the addition of 2½ or 3 minims of 1:1,000 epinephrin solution to the ounce, is employed.

Beginning at a point about one-half inch posterior to the anal margin, with a fine needle about 2 inches long, the injection is made under the skin, first to the right and then to the left, so that the tissues circumscribing the anus receive the benefit of about 4 to 6 drams (16 to 18 cc.), and seldom more than one ounce (30 cc.) of the solution. The injection should be slow.

After massaging the injected parts for one or two minutes, a most complete and thorough relaxation of the sphincter muscles is obtained, even in the presence of an acutely painful ulcer or fissure or a greatly hypertrophied muscle.

The needle should not be permitted to reach or perforate the lumen of a fistulous tract, ulcer or other lesion or puncture the skin or mucous membrane.

With such anesthesia, patients can be operated upon in the office or in their homes.

X-Rays in Acne Vulgaris

Dr. C. J. Broeman, in *Radiol. Rev.*, Sept., 1929, asserts that radiotherapy, properly applied, constitutes the most valuable remedy we possess in the treatment of acne vulgaris and that it has changed the indifferent results with other methods into positive cures, in a great majority of patients.

The usual way of treating acne with the x-rays is to give unfiltered, broken doses (say one-fourth erythema doses), at intervals of once a week. The patient's face should be carefully examined each time before treatment with the x-rays, because some skins are more susceptible than others and the experienced radiotherapist will be able to detect skin changes that will cause him to stop using the x-rays or give a treatment only every other week. It is advisable, after ten exposures of one area at weekly intervals, to be more careful and, in some cases, to discontinue using the x-rays.

Hyperemesis Gravidarum

In *Arch. Phys. Therap., X-Ray, Radium*, Sept., 1929, Dr. H. D. Holman, of the Park Hospital Clinic, Mason City, states that four years ago the Clinic began the use of ultraviolet irradiations in the nausea and vomiting of pregnancy. Gradually ultraviolet irradiaton has come to be the thing around which they center their treatment of hyperemesis and allied conditions. Some cases with excellent results are cited.

It would appear that hyperemesis gravidarum is a condition resulting from civilization; so far as is known it does not occur in women in primitive conditions.

Effort Syndrome and the Heart

In *Southern Med. and Surg.*, Oct., 1929, Dr. W. B. Kinlaw, of Rocky Mount, N. C., draws attention to the functional heart disturbances which usually accompany what is called the effort syndrome. These disturbances include palpitation, dyspnea, exhaustion, heart-pain, dizziness and even syncope but, generally, there is no organic heart disease.

The important point is that the three commonest symptoms of organic heart disease—dyspnea, pain in the heart region and palpitation—may be produced by the condition known as effort syndrome. It is necessary, therefore, in diagnosis, to note whether there are physical signs to correspond with the patient's symptoms. If physical signs are absent, the case is almost always one of effort syndrome and not of heart disease. The exception is the angina case, which often presents no physical signs.

Publishing Medical Books

Some remarks of K. M. Blakiston, the medical book publisher, of Philadelphia, in the *Med. Mentor*, Oct., 1929, should interest those thinking of writing medical books.

From the publisher's view point, the special difficulties in connection with such books are that, owing to the limited market, editions must be small; such books, owing to advances in knowledge, soon become out of date; publication costs are very high, due to special illustrations, typography and proofreading; finally, the cost of maintenance and advertising is the same for a four dollar book as for one priced at ten dollars.

The fact that a manuscript is not selected by a publishing house is no reflection upon its scientific value or mode of presentation, but mostly an economic matter—the publication would not pay the costs.

Making a Will

By creating a trust naming a reputable Trust Company as executor and trustee, you secure a safe income and an efficient management of your estate for those dependent upon you. You can make such dispositions as you desire and they will be rigidly carried out.

An individual trustee, if efficient, may not be able to spare the necessary time from his own business to devote to the management of your estate, or he may die; if inefficient, he may have enough of time but his unwise investments may cause the loss of your property. A reputable Trust Company is equipped to manage estates, it is experienced in doing so and it is its business to evaluate the investment market. The law operates in your favor and Trust Companies cannot use your funds for their own purposes. —DAVID L. KLEIN, ESQ., in *Medical Mentor*, Oct., 1929.

Agranulocytic Angina

In *Laryngoscope*, Oct., 1929, Dr. W. Spielberg, of New York, states that agranulocytic angina (also called agranulocytosis and malignant leukopenia) is a symptom-complex more frequently recognized and diagnosed now than formerly.

The two outstanding clinical features of this condition are: (1) Ulcerated and necrotic areas in the mouth and pharynx; (2) a very low white blood count, particularly in the number of polymorphonuclear leukocytes (granulocytes) which, before death takes place, may entirely disappear from the blood picture. The condition almost always terminates fatally.

Test for Hearing

The following quantitative method of testing the hearing is given by Dr. B. M. Becker, of Brooklyn, in *Laryngoscope*, Oct., 1929.

A piece of soft rubber tubing, 10 feet long, about 4/16-inch diameter and 3/16-inch lumen, is required. The tubing is divided into three sections, two of which are 24 inches long and one 72 inches. These are connected in the following fashion: The shorter lengths are slipped over the bifurcation of a Y-shaped piece of hard rubber tube and the longer one over its stem. Each of the shorter tubes is equipped with an ear tip at its free end and a small metal clamp fixed over each of the short tubes.

The rubber tubing is marked off in inches, starting with No. I at the insertion of the ear tips on the short tubes, the numbering is then continued on the long tube beginning with No. 25. This apparatus can be used with a watch, acumeter or tuning forks. The tips are inserted into the patient's ears and a watch is firmly pressed against the tube so as partly to obliterate

its lumen. It is moved along until the point is reached where the tick is no longer heard. One tube is clamped during the test, which is then repeated for the opposite ear. In this way an ear audition ratio can be established for the patient and can be used as a basis for comparison with normal hearing and for noting improvements under treatment.

Commonest Skin Diseases

Most practitioners think of dermatology as being an immensely complex and more or less vague subject, but, as a matter of fact, more than half of the cases of the diseases of the skin fall under about ten diagnoses.

Dr. Herman Goodman, of New York, has reviewed a large mass of published statistics and, in *Arch. Dermat. and Syph.*, for Aug., 1929, reports that the ten most common skin diseases, in the order of their frequency, are:

Eczema	Impetigo
Acne	Urticaria
Scabies	Dermatitis venenata
Psoriasis	Tinea
Seborrhea	Alopecia

It is interesting to learn, in studying some other sets of figures, that the ranking six diagnoses from each reported set average 50 percent of all diagnoses, although no report includes the same six as another report or in the same order of prevalence.

And the greatest lesson of all: A knowlelge of less than a dozen conditions, agreed upon as being of the class of diseases of the skin, would make any practitioner no less than 60 percent proficient in the field of dermatology.

Chemical Factors in Control of the Circulation

The Croonian lectures for 1929, by Dr. H. H. Dale, of London, Eng., published in *Lancet*, June 8, 15 and 22 deal with some chemical factors in the control of the circulation. The intention of the author is to show that various changes, affecting the rhythm of the heart and contraction and dilation, especially of minor vessels, are not due to the action of impulses proceeding from the vagus and sympathetic nerve supply, but to the liberation of chemical substances having inhibitory and excitatory actions.

The substances particularly discussed in these lectures are the hormones, adrenalin and vasopressin (pituitary), histamine and acetyl-choline.

It seems probable that the dilator effect of minute doses of adrenalin, as normally secreted, particularly on the small vessels of the skeletal muscles, is a truly physiologic effect, occurring in the normal animal.

Vasopressin appears to produce its effects on the circulation by increasing the tone of the minute vessels, without any discrimination corresponding to their nerve supply.

Histamine does not appear to act as a hormone. It occurs in practically all the organs and tissues of the body. It is intensely active in producing local vasodilatations and appears to be liberated from cells under an injury to them, although it may probaby be liberated also normally under certain conditions; i.e., it produces relaxation of the tone of the small blood vessels, in response to irritation or injury of the tissues, local or general.

In regard to acetyl-choline, there appears to be a body of evidence in favor of the view that the vagus produces its effects, not by direct passage of its impulses to the effector cells, but by liberation of acetyl-choline. This is a powerful depressor substance for the circulation.

Mechanism of Passive Immunity

Dr. A. Besredka, in *Acta Med. Scand.*, May 28, 1929, puts forward the hypothesis that specific serums contain, at the same time, antiviruses and antibodies. Their special affinity to the receptive cells is due to the presence of specific antiviruses which are absorbed by the receptive cells and which then become refractory to specific viruses. Thus the active principle in local serotherapy is the same as in local vaccinotherapy. The immunity thus conferred is rapid, of short duration and strictly specific.

Cholecystography in Diagnosis

In *Radiol. Rev.*, Aug., 1929, Dr. C. E. Weaver, of Detroit, defines cholecystography as the introduction of dye into the blood stream, its excretion by the liver into the bile and concentration by the gall-bladder to a sufficient density to render it opaque to the x-rays, so as to cast a shadow on the films. The bile must, not only enter the gall-bladder, but must be concentrated by absorption of the watery content. The test often reveals non-opaque stones as negative density shadows, adhesions, anomalies, etc.

The author uses the oral method entirely. The dye is given in one dose at 8 P.M. the day before examination, the patient abstaining from food thereafter. The normal response to the test is a shadow of good density at 10 A.M., usually smaller and more dense at 1 P.M. and more than half empty 2 hours after the fat meal.

Out of 741 examinations, less than 4 percent have vomited, 10 percent have had diarrhea of varying degrees and 10 percent had no reaction of any kind.

NEW BOOKS

Van De Velde: Ideal Marriage

IDEAL MARRIAGE. Its Physiology and Technique. *By Th. H. Van de Velde, M.D., formerly director of the gynecological clinic at Haarlem. Translated by Stella Brown. Introduction by J. Johnston Abraham, C.B.E., D.S.O., M.D. London: William Heineman (Medical Books) Ltd. Philadelphia: Nandor-Wilson.* 1928. *Price* $10.00.

Since Long's "Sane Sex Life and Sane Sex Living" went out of print, there has been no readily available and really adequate work on erotology. Moreover, Long's book was strictly limited in its circulation to physicians, teachers and the clergy. Lay's "Plea for Monogamy" and Margaret Sanger's "Happiness in Marriage" are both worthy and valuable books, especially for husbands, but, except in the hands of persons who have read sufficiently to acquire a ready perception of the meanings of allusions and symbolic statements, they leave something to be desired in the matter of details of technic in sexual intercourse.

This volume has been prepared for the use of married laymen, of both sexes, and about half of the text contains a simple description of the anatomy and physiology of the sex organs of men and women. This section is illustrated with several diagrammatic plates, in colors.

The latter and more important half of the work is devoted to precise and clearly worded descriptions of the act of supreme union between a man and a woman, from the first amatory approaches to its ultimate completion. At no point is there the slightest hint of pornography, nor will anyone who opens the book purely from prurient curiosity find any joy or satisfaction in it. This is a serious work, for sincere and earnest people.

Nor is there here any consideration of physical or psychic morbid conditions. It is a discussion of strictly normal relations, between normal persons, and an effort is made to show the readers how the physiologic acts discussed can be kept sound and sweet and beautiful, through many years.

No physician is prepared to discharge his full duty to his patients unless he can give them *intelligent and specific* help in their domestic problems. This book will show him how to give that sort of advice, and no medical library is complete without this or some similar work, the number of which is few.

Every married couple should have access to such a volume, and the sooner in their life of union they encounter it, the better. It would even be well that engaged couples should read it, separately, before marriage, and, together, very soon after. It is not suitable nor would it be helpful to unmarried persons, for only in the lawful and recognized intimacies of married life could its suggestions be fully carried out.

This is the best readily procurable text on erotology that the reviewer has seen.

The paper, typography and bookmaking are excellent.

Harper: Clinical Obstetrics

CLINICAL OBSTETRICS. *By Paul T. Harper, Ph.B., M.D., Sc.D., F.A.C.S., Fellow of the American Association of Obstetricians, Gynecologists, and Abdominal Surgeons, and of the New York Obstetrical Society; Clinical Professor of Obstetrics, Albany Medical College; etc. Illustrated with 84 plates of engravings (250 figures) with legends and charts. Philadelphia: F. A. Davis Company.* 1930. *Price* $8.00.

In many respects Dr. Harper's new textbook of clinical obstetrics presents innovations from stereotyped procedures. In the first place, one might say that his general attitude toward delivery is manipulative and active, rather than expectant. This may be justified if we accept the view that, with the advance of civilization and what may be termed artificial modes of living, labor tends to become more and more a pathologic, rather than a physiologic and natural process.

There can be little doubt that the socalled toxemias of pregnancy and their results are increasing, as proved by statistics; that the bases for this lie in constitutional inadequacies of the mother and inability to dispose of her own toxins, as well as those of the fetus, is a matter which admits but little doubt; and, moreover, most of the difficulties in the prepartum, delivery and postpartum periods are associated with the immediate or delayed effects of such toxemias.

Of the 22 chapters which form Dr. Harper's book, most are concerned with the clinical aspects of delivery and abnormal labor. Bandl's ring, the occiput posterior and other unusual presentations; uterine inertia; pelvic contraction; infectious toxemias and other complications are comprehensively covered. Although a watchful and active conduct is counselled, yet Dr. Harper may be said to be a conservative obstetrician and in the toxemias, for instance, he advocates thorough elimination, especially intestinal, as the most adequate method of dealing with the situation, rather than medicative measures.

However, in the use of forceps, one may take some exception to the teaching that they are indicated where lack of progressive advance, in the presence of apparently satisfactory contractions, proves natural forces to be inadequate.

There is, undoubtedly, too much haste at the present time, in applying the forceps and too little attention paid to the subsequent effect of this procedure on the mother and child. Nature is slow, but in cases in which it may seem almost impossible it has been proved, over and over again, that women will deliver themselves if given adequate time, and this means a long time in many cases. The teaching, it seems to us, should rather be to discountenance the use of forceps except as an extreme measure, rather than to suggest their application when any difficulty arises.

This treatise is one for the obstetrician and teacher of experience, rather than for the novice. It may be said, on the whole, to present a fair picture of the practice of obstetrics in American institutions today, especially conservative obstetrics. While many may disagree with some of the teachings of Dr. Harper, yet, in general it will be agreed that his position is generally sound and justified by experience.

Ellis: Man and Woman

MAN AND WOMAN. *A Study of Secondary and Tertiary Sexual Characters. By Havelock Ellis. Boston and New York: Houghton Mifflin Company.* 1929. *Price* $5.00.

The present book is a remolded and popularized form of Havelock Ellis's original work on "Man and Woman," first published in 1894, which ran into several editions and translations.

The essential primary, secondary and tertiary sex characteristics are considered, and it is shown that the physical and psychic peculiarities of the sexes are, not the result of evolutional differentiation from a common human prototype, but inherent qualities which are indispensable for essential biologic functioning. The anatomic structures, the conscious and unconscious, and the impulses are shown to be adaptable to these considerations.

Ellis leads up by degrees to his principal conclusion—one which he has constantly sustained—that the socalled equality of the sexes is a misnomer. There is no equality in the ordinary sense, except it be what has been termed an equality of difference, which is expressed by saying that the sex summation of values is an equivalence rather than an equality. Woman is capable of performing all that pertains to her individuality as well as man performs all that pertains to his individuality. Each sex performs the work of its biologic sphere better than the other sex could do it; both are necessary and complementary for complete biologic functioning. Economic and social artificialities do not alter biologic fundamentals.

Ellis's view is therefore at variance with the ideals of sex equality in all directions, put forward by the leaders of the feminist movement in recent decades.

A point of interest to students of biology and of the effects of socalled civilization upon it is, that modern man is slowly departing from the characters of his primitive prototypes and is now biologically approximating the female type.

The volume, in its language, preserves all the charm of Ellis's literary style. It is a book especially for the cultured man, whether layman or physician—a humanist book—the perusal of which will give much intellectual pleasure, even if the views of the author are not always accepted as convincing.

Hart: Psychology of Insanity

THE PSYCHOLOGY OF INSANITY. *By Bernard Hart, M.D. (Lond.), Fellow of University College, London; Physician for Mental Diseases, University College Hospital; etc. Cambridge (Eng.): At the University Press. New York: The Macmillan Co.* 1929. *Price* $1.00.

The only book, so far as we know, with which this little treatise can profitably be compared is Myerson's "Psychology of Mental Disorders," which was reviewed on page 880 of CLINICAL MEDICINE AND SURGERY for 1927, and the two are complementary to each other. Myerson's is a discussion for intelligent laymen, as well as general practitioners, while this is, essentially, for physicians, particularly those in general practice.

Here the subject of mental disease is taken up according to the scientific method, by presenting, first, the history and the psychologic conception of insanity and then setting forth, briefly, the phenomena which are seen in the psychoses. These phenomena are then classified and the several classes are considered in some detail, showing how the various symptoms arise as exaggerations or perversions of mental processes which go on in normal persons. Finally, the results of careful observation and thoughtful study are correlated as a short formula or "scientific law," which lends much weight to the psychologic, as opposed to the physiologic, view of the etiology of mental alienation.

The entire text is written in a clear, direct and pleasing style, free from unnecessary words, ponderous technical expressions and ambiguities, so that any intelligent person can follow the author's argument with ease. The chapter on "Complexes" is especially enlightening and helpful.

No working medical library can be considered complete without some work of this sort, and the very modest price at which this little book is sold places it within the reach of every physician. With this and Myerson's contribution, any practitioner is equipped to give intelligent consideration to his mentally abnormal patients and to deal with them in a satisfactory manner.

Huhner: Disorders of the Sexual Function

A PRACTICAL TREATISE ON DISORDERS OF THE SEXUAL FUNCTION IN THE MALE AND FEMALE. *By Max Huhner, M.D., Chief of Clinic, Genitourinary Department, Mount Sinai Hospital Dispensary, New York City; Formerly, Attending Genitourinary Surgeon, Bellevue Hospital, Out-Patient Department and Assistant Gynecologist, Mount Sinai Hospital Dispensary, New York City; etc. Third Edition. Philadelphia: F. A. Davis Company.* 1929. *Price* $3.00.

In this work, Dr. Huhner discusses masturbation, impotence, pollutions, priapism, clitorism, clitoris crises, satyriasis, nymphomania, frigidity,

vaginismus, dyspareunia, absense of orgasm, enuresis, withdrawal, continence and some unusual forms of sexual neuroses. The venereal diseases, and perversions and degeneracies, which more properly belong to the domain of abnormal psychology, are not discussed.

Dr. Huhner writes from the viewpoint of the genitourologist. He points out that, while many if not most of the above conditions come to the neurologist, they more properly belong to the genitourologist as, generally speaking, the functional disorder has its basis in local abnormalities, which can only be appreciated by the genitourinary specialist. There are, of course, cases in which a purely psychic condition will react by disturbing sexual function. One of the main objects of the author, in this book, is, therefore, to bridge the gap between the neurologist and genitourinary specialist in treating such patients. The neurologist is neither trained nor equipped to make the necessary local examinations, and the genitourinary specialist has shunted such patients because he felt they were psychiatric. In fact, as Dr. Huhner states, very often the local pathologic condition that may be causative of an important sexual neurosis, may be of a very minor type and such as would scarcely be considered abnormal in the ordinary genitourinary examination.

The general practitioner should be able to deal, in a general way, with such disorders and to refer them to their proper place. They are as real as any other diseases, for the unfortunates affected by them. The greater part of Dr. Huhner's discussion is devoted to treatment, and the general practitioner, as well as the specialist, will derive much benefit from its perusal and study.

The book is clearly printed and the price reasonable.

Cecil: Arthritis

THE DIAGNOSIS AND TREATMENT OF ARTHRITIS *By Russell L. Cecil, M.D., Sc.D., Assistant Professor of Clinical Medicine, Cornell University; Assistant Visiting Physician, Bellevue Hospital, New York City. Vol. VI of the Oxford Monographs on Diagnosis and Treatment, Edited by Henry A. Christian, M.D., S.D., LL.D. New York: Oxford University Press. Price, complete set of 10 volumes, $100.00.*

Volume VI of the *Oxford Monographs on Diagnosis and Treatment* deals with arthritis. These monographs are being specially prepared for the clinician, each dealing exclusively with the present-day, practical aspects of diagnosis and treatment of a well defined symptom-complex.

The book consists of two parts: Part I deals with acute arthritis and comprises the infectious, septic and non-infectious types.

In Part II, chronic arthritis is taken up, including the specific and chronic as well as the degenerative and metabolic arthritides.

There has been and is, undoubtedly, much confusion in the conception of what constitutes arthritis and socalled rheumatism. Dr. Cecil considers them as the manifestations in the joints of various pathologic entities.

These volumes are bound in the loose-leaf form, giving an opportunity of inserting newer knowedge as it becomes available, and are an excellent source of the most modern information, for busy physicians who must make every hour of study count.

Hill: Proctology

A MANUAL OF PROCTOLOGY. *By T. Chittenden Hill, Ph.B., M.D., F.A.C.S., Instructor in Proctology, Harvard Graduate School of Medicine; Surgeon to Rectal Department, Boston Dispensary; etc. Third Edition, Thoroughly Revised. Illustrated. Philadelphia: Lea & Febiger. 1929. Price $3.50.*

In this book the author presents the essentials of modern proctology in all aspects, condensed and free from unnecessary details, and based on his personal experience and a review of the literature.

There are 14 short chapters, dealing with the principal pathologic conditions of the rectum and anus. The chapters on hemorrhoids and cancer of the rectum seem especially commendable. A pleasing feature is the careful description of technical details in operative work, so that they are easily followed. There are a number of excellent illustrations.

This third edition has been brought entirely up-to-date and it is recommended to every general practitioner who desires to have a good, recent book on proctology.

Lewin: Hygiene of the Feet

POSTURE AND HYGIENE OF THE FEET. *By Philip Lewin, M.D., Associate Professor of Orthopedic Surgery, Northwestern University Medical School; Attending Orthopedic Surgeon, St. Luke's Hospital, Chicago; etc. One of The National Health Series, Edited by The National Health Council. New York and London: Funk & Wagnalls Company. 1929. Price $0.30.*

Several books on minor troubles of the feet have been written by chiropodists and others outside the regular profession, because, foolishly, members of the latter have generally considered these ailments trivial and, professionally speaking, undignified. Yet they are very real and incapacitating troubles, for those who suffer from them.

We are, therefore, glad to see this little monograph written by an orthopedist of Dr. Lewin's standing and sponsored by the National Health Council. It deals with care of the feet, flatfoot, disturbances of the metatarsal arch, ankle sprains and other injuries. There are numerous illustrations which are well chosen. The price is so ridiculously low that no practitioner should fail to have a copy, and parents and others should be advised to get it as a guide to prevent foot troubles.

Schmucker: Heredity and Parenthood

HEREDITY AND PARENTHOOD. *By Samuel Christian Schmucker, Ph.D., Sc.D., Emeritus Professor of Biological Sciences, State Teacher's College, West Chester, Pa. New York: The Macmillan Company. 1929. Price $2.50.*

An interesting volume for the layman. It consists of a number of essays on the principal

biologic processes which influence heredity. The Mendelian theory and the inheritance of racial and parental characteristics form the bases on which the author works.

Physicians may recommend this, as an authentic presentation of the known, scientific facts concerning life and its transmission, and as a book that can be read with profit by every intelligent family. They may, themselves, also find much valuable information within its covers.

Smith & Wikoff: Materia Medica

PRACTICAL MATERIA MEDICA. *An Introductory Text to the Study of Pharmacology and Therapeutics Designed for Students of Medicine. By Clayton S. Smith, Ph.D., M.D., Professor of Physiological Chemistry and Pharmacology in the College of Medicine of the Ohio State University, Columbus, Ohio; and Helen L. Wikoff, Ph.D., Instructor in Physiological Chemistry and Pharmacology in the College of Medicine of the Ohio State University, Columbus, Ohio. Philadelphia: Lea & Febiger.* 1929. *Price* $3.25.

This book has been written for the medical student who, for the first time, faces the problem of becoming acquainted with the drugs he will use in the practice of medicine.

There are four parts: In Parts I and II, the chemical and medical aspects of the inorganic and organic drugs are discussed. Part III includes the classification and discussion of the important poisonous compounds. Part IV deals with prescription writing.

This text correlates chemistry, materia medica and therapeutics, and the student gets an idea of the comparative value of the various drugs, as well as of the various testing reagents and the method of using them.

Leadbeater: Occultism

SOME GLIMPSES OF OCCULTISM. *Ancient and Modern. By C. W. Leadbeater. Third Edition. Wheaton, Ill.: Theosophical Press.* $2.50.

Each year, orthodox science is taking more and more notice of forces which, although invisible and more or less impalpable, are very real and powerful. It is, then, only those whose minds are closed who would refuse to consider the reasonable statements of a man who has demonstrated that he possesses faculties not generally possessed by men, at this time; though he states, directly, that any man can develop them, if he will spend the necessary time and effort.

The author of this interesting treatise (really a collection of edited lectures), begins by showing, in detail, the correspondencies between the mass of information, long possessed by certain orientals and known as the Ancient Wisdom, and the world's great religions, such as Christianity, Buddhism, Hinduism, etc.

He then goes into many fascinating particulars regarding a number of matters, hitherto *hidden* (occult) from those of the Western races, because of their inability to use the knowledge safely and wisely.

Among the pregnant chapter headings are: "The Unseen World"; "The Rationale of Mesmerism"; "Telepathy and Mind Cure"; "Magic, White and Black"; "How to Build Character"; "The Future of Humanity"; etc.

The discussions of magic and telepathy are particularly sound, reasonable and illuminating; though the volume is filled with ideas which will be surprising to many people, but which Bishop Leadbeater clears up and explains in a way which makes them entirely comprehensible.

The chapter on character building contains practical suggestions which, if put into practice in any human life, can scarcely fail to make that life happier and more fruitful.

To any who are interested in the less-understood faculties of the mind and the emotions; in what are known as psychic powers and phenomena; or in the scientific aspects of religion, this book can be confidently recommended as a storehouse of information which is not easy to come by elsewhere, presented in a clear and logical manner which will appeal to those accustomed to thinking in accordance with the methods of science.

Medical Clinics of North America

THE MEDICAL CLINICS OF NORTH AMERICA. *New York Number, Volume* 13, *Number* 3, *November,* 1929. *Philadelphia and London: W. B. Saunders Company. Price, per Clinic year, July,* 1929 *to May,* 1930: *Paper,* $12.00, *Cloth.* $16.00.

The November number of this excellent clinical serial is devoted to papers from New York City clinics. The following papers are of particular clinical value to the general practitioner: "Pernicious Anemia," by Dr. C. F. Tenney and associates; "Serum Treatment of the Pneumococcus Pneumonias," by Dr. J. G. M. Bullowa; "Importance of the Etiology in the Diagnosis of Heart Disease," by Dr. H. E. B. Pardee; "Blood in the Urine," by Dr. W. Scott Pugh; papers on the clinical aspects of bronchial asthma, by Drs. H. S. Baldwin and M. A. Ramirez; "Varicose Ulcer and Eczema," by Drs. M. R. Caro and T. J. Riordan; and the "Role of the Leukocytes in Infection," by Dr. A. Weiss.

Altogether there are 18 clinical contributions.

Methods and Problems of Medical Education

METHODS AND PROBLEMS OF MEDICAL EDUCATION. (*Fifteenth Series*). *New York: The Rockefeller Foundation,* 61 *Broadway.* 1929. *Gratis on request.*

These studies of the methods and problems of medical education have been prepared by the Rockefeller Foundation for the information and guidance of those concerned in the planning and equipment of buildings devoted to the education of medical students, including hospital clinical study.

The present study, the Fifteenth Series, is devoted to a description of the Albany Medical College, the Medical Department of Union Uni-

versity, Albany, N. Y. This school, including the attached hospital, has been completely reorganized during the past few years and may be considered as representing an up-to-date example of a modern medical teaching unit. Each department is described and illustrated by the professor in charge.

These monographs are distributed gratis on request.

Terry: Human Anatomy

AN INTRODUCTION TO THE STUDY OF HUMAN ANATOMY. *By Robert James Terry, A.B., M.D., Professor of Anatomy in Washington University. New York: The Macmillan Company.* 1929. *Price* $3.50.

The purposes of this book are well expressed in the following extract from the author's preface: "The book is intended for use by students of medicine. . . . It assumes that they will need, at first, a great deal of assistance, less as experience is gained and very little in the later dissections. On this assumption the directions for procedure are given in considerable detail and often repeated for the dissection of the limbs, which are the first subjects considered; directions in the study of the head and neck, which are the last subject in the book, are limited to regions in which the investigation presents unusual difficulties. . . . There is no descriptive text."

As may be inferred, the book is a dissecting room guide. But it puts the student there with his cadaver specimen and, to a very great extent, makes him rely on his own observations and upon verification of what he will find in his textbook of descriptive anatomy. It is an attempt to teach anatomy by the observation and deduction method, as followed by the author with his own students and with an ultimate eye to research.

Price: Practice of Medicine

A TEXTBOOK OF THE PRACTICE OF MEDICINE. *By Various Authors. Edited by Frederick W. Price, M.D., F.R.S. (Edin.), Consulting Physician to the Royal Northern Hospital; Physician to the National Hospital for Diseases of the Heart, London; etc. Third Edition. London and New York: Humphrey Milford, Oxford University Press.* 1929. *Price* $11.50.

This textbook of medical practice is compiled from the contributions of a large number of leading British physicians and edited by Dr. F. W. Price. That it has met with general approval of the profession is substantiated by the fact that several reprintings have been called for since its first issue in 1922 and a third revised and enlarged edition is now necessary.

Covering, as it does, the whole field of medicine, including psychologic medicine and tropical diseases, the amount of matter is necessarily extensive, but the treatment of specific conditions must, on this account, be succinct. Thus the discussion on the treatment of such an important condition as nervous syphilis is too curtailed, although it is one of the directions in which recent medical practice has made extensive progress.

A general criticism of all such single-volume editions, which deal with the whole field of medicine, is that they tell a little of everything, but everything about nothing. This must necessarily be so and the young doctor will find books like this one rather deficient in just those practical details of treatment which he needs most in dealing with a given condition. Only 6 lines are devoted to the treatment of pellagra; irradiated ergosterol is not specifically mentioned, or is only hinted at in the prophylaxis and treatment of rickets; nor is ephedrine discussed, in the treatment of asthma, hay-fever or the rhinorrheas.

Owing to the extent of the book—there are more than 1800 pages—very thin paper has been used and, as it is too transparent and the type small, it is tiring to read. One also notices several proof-reading errors in the index pagination and, even in the preface, *verruga peruviana* is stated to have been changed from one place to the same place.

The volume does not appear to be one with any outstanding features which would recommend it to American physicians.

Crofton: Endocrinology

AN OUTLINE OF ENDOCRINOLOGY. *By W. M. Crofton, B.A., M.D., Lecturer of Special Pathology, University College, Dublin, Pathologist, Dr. Steevens' Hospital, Dublin. Second Edition. New York: William Wood & Company. Edinburgh: E. and S. Livingstone.* 1929. *Price* $3.00.

This is a sanely and sympathetically written outline of present day knowledge of endocrinology, for the use of the medical student or general practitioner who has not studied the subject.

In regard to endocrine therapeutics, while the author is convinced of its value, he stresses the fact that such is usually only substitution or antagonistic therapy, and not curative when a gland is anatomically or functionally defective. This is well illustrated by the fact that, in diabetes, the use of insulin must be kept up constantly.

Classification and Diagnosis of Heart Disease

CRITERIA FOR THE CLASSIFICATION AND DIAGNOSIS OF HEART DISEASE. *By a Committee, Harold E. B. Pardee, M.D., Chairman, of the Heart Committee of the New York Tuberculosis and Health Association, Inc. Arranged in Conformity with the Nomenclature for Cardiac Diagnosis Approved by the American Heart Association. Second Edition. New York: American Heart Association, 370 Seventh Ave.* 1929. *Price* $1.00.

This little volume is the work of the Heart Committee of the New York Tuberculosis and Health Association.

One of the aims of this Committee is to study the natural history of various heart diseases, especially based on statistics furnished by clinics and individuals. To do this successfully, two things are necessary: (1) A uniform nomen-

clature; and (2), uniform diagnostic criteria to fit the nomenclature. The nomenclature approved by the American Heart Association has been adopted and this little volume supplies the diagnostic criteria.

The general practitioner will find these diagnostic criteria, which have been furnished by experts in heart diseases, very valuable in arriving at a correct evaluation of the various functional and organic diseases of the heart. The advantages of adopting such uniform nomenclature and criteria in reporting cases are obvious.

Kidd & Simpson: Infections of Female Urethra and Cervix

COMMON INFECTIONS OF THE FEMALE URETHRA AND CERVIX. *By Frank Kidd, M.A., M.Ch. (Cantab.), F.R.C.S. (England), and A. Malcolm Simpson, B.A., M.B., D.P.H. (Cantab.) With Additional Chapters by Geo. T. Western, M. D., and M.S. Mayou, F.R.C.S. ..New York and London: Humphrey Milford, Oxford University Press.* 1929. *Price* $2.50.

This treatise is, for all intents and purposes, one on the treatment of venereal infections, especially gonorrhea, in the female. It is based on the authors' experience in the treatment of genito-urinary diseases in the London Hospital; but more particularly on their study in the special clinic in this section for gonorrheal infections in women and children. This clinic, apparently the first public hospital clinic of the kind in England, was opened by the authors in 1917.

The authors claim that, by their special method of investigation and treatment with simple antiseptics, practically all early gonorrheal urethritis and cervicitis cases clear up and are cured. In gonorrheal arthritis, the patient is instructed in early active movements of the affected joints.

The authors say that their book will have failed in its purpose if it fails to convince the general practitioner that he need no longer be afraid to tackle a case of gonorrhea in the female.

Cameron: The Nervous Child

THE NERVOUS CHILD. *By Hector Charles Cameron, M.A., M.D. (Cantab.), F.R.C.P. (Lond.), Physician in Charge of The Children's Department, Guy's Hospital. Fourth Edition. London and New York: Humphrey Milford, Oxford University Press.* 1929. *Price* $1.75.

Early in this discussion the author says, "If the doctor is to fit himself to give sound advice to parents he must be a close observer of little children—and not alone in hospitals and clinics. He must not consider it beneath his dignity to study nursery life and nursery ways." He then proceeds to such a study.

Dr. Cameron shows that "the mental environment of a child is created by the mother or the nurse," and indicates that the "nervous child" is not born so (though he may inherit such a tendency), but is *made* so by injudicious management during his early years.

Metabolic disturbances are, in the doctor's opinion, at the bottom of most of these nervous disorders, and should be studied and corrected. Moreover, he warns against becoming obsessed by the Freudian complex of a sexual basis for all neuroses.

No physician who is treating children can afford to overlook this book, the price being so modest.

Treves-Barber: Varicose Veins

THE TREATMENT OF VARICOSE VEINS OF THE LOWER EXTREMITIES BY INJECTIONS. *By T. Henry Treves-Barber, M.D., B.Sc. New York: William Wood and Company.* 1929. *Price* $2.25.

The injection method of treating varicose veins has evidently come to stay This little monograph on the subject is an excellent and concise exposition of the technic and may be recommended to those who wish to employ the method in general practice. There is, however, nothing that cannot be found in American books on the subject.

Schäffer-Zieler-Seibert: Skin and Venereal Diseases

J. SCHÄFFER'S BEHANDLUNG DER HAUT- UND GESCHLECHTSKRANKHEITEN. *Siebente,, vermehrte und verbesserte Auflage. Neu bearbeitet von Dr. Karl Zieler und Dr. Conard Siebert. Mit 84 Abbildungen im Text. Berlin und Wien: Urban & Schwarzenberg.* 1929. *Price RM* 15.—

This is the seventh edition of Schäffer's *Treatment of Skin and Venereal Diseases*, revised and rewritten by Zieler and Siebert. It is a good, practical treatise on the subject, for those who read German. Zieler is professor and lecturer on skin and venereal diseases in the University Clinic and Polyclinic, in Würzburg.

Nissen: Practical Massage

PRACTICAL MASSAGE AND CORRECTIVE EXERCISES WITH APPLIED ANATOMY. *By Hartvig Nissen, Late President of Posse Normal School of Gymnastics; Superintendent of Hospital Clinics in Massage and Medical Gymnastics; etc. Fifth Edition, Revised and Enlarged by Harry Nissen, President, Posse-Nissen School of Physical Education, Boston, Mass. Illustrated. Philadelphia: F. A. Davis Company.* 1929. *Price* $2.50.

This textbook for the use of students and teachers of Swedish movements and massage has reached the fifth edition since its first issue in 1889.

There are three parts: In Part I, the various manipulations and their effects are described and illustrated. Part II includes a short outline of essential anatomy and the application of corrective exercises. Part III is devoted to treatment of various diseases.

So far as can be judged, the book should be an excellent guide for students of the technicalities of massage, as it is the work of an experienced, practical teacher. When, however, it presumes to offer treatment for diseases, such as neurasthenia, high blood pressure, circulatory

and digestive tract disorders, etc., apparently without the intervention and prescription of a physician, it goes beyond its function. The masseur can only be recognized as a technician working under the orders and direction of a regular practitioner of medicine To the latter, such a work as this may give much valuable information.

Eberts & Associates. Thyroid Gland

SURGICAL DISEASES OF THE THYROID GLAND. *By E. M. Eberts, M.D., Surgeon to the Montreal General Hospital; Associate Professor of Surgery, McGill University. With the Assistance of R. R. Fitzgerald, M.D. and Philip G. Silver, M.D. Illustrated. Philadelphia: Lea & Febiger.* 1929. *Price* $3.50.

This small but very practical volume is a presentation of the surgical diseases of the thyroid gland, based particularly on the authors' extensive experienced gained in the goiter clinic of the Montreal General Hospital. This experience rests upon a very careful study and follow-up of over 2,000 cases, about half of the patients having been operated upon.

The book is divided into two parts: Part I gives concisely the main theoretic facts concerning the embryology, physiology and pathology of the thyroid gland. The authors do not waste time in discussing controversial points. The second part, by far the more extensive and important, is devoted to the clinical aspects of diseases of the thyroid gland, especially the various goiters. This part is rich in applicable case reports.

The general practitioner, the surgeon and the student of endocrine disorders will find much in this little book to interest them, especially from the clinical standpoint.

Jellett & Madill: Midwifery

A MANUAL OF MIDWIFERY. For Students and Practitioners. *By Henry Jellett, B.A., M.D. (Dub. Univ.), F.R.C.P.I., L.M. Late King's Professor of Midwifery in the School of Physic, Trinity College, Dublin; etc.; and David G. Madill, B.A., M.B., B.Ch., B.A.O. (Dub. Univ.), L.M., Gynecologist to Adelaide Hospital, Dublin; Gynecologist to Monkstown Hospital, Dublin; etc. Fourth Edition. New York: William Wood and Company.* 1929. *Price* $10.00.

As a school for the teaching of obstetrics, the Rotunda Hospital, of Dublin, has earned a world-wide reputation, and Professor Jellett's textbook has generally been accepted as an authoritative representation of the teachings of that school.

The present (fourth) edition has been revised and partly rewritten with the collaboration of Dr. D. G. Madill. The first five parts deal with the physiologic aspects of pregnancy; Parts VI, VII and VIII cover the pathology of labor and the puerperium; Part IX deals with obstetric operations; and part X is devoted to the infant.

The parts of the book particulary valuable to practitioners are those dealing with the management of normal and complicated labor. As may be expected from the conservative teaching of the Rotunda School, manipulative obstetrics is stressed to a degree which is scarcely accepted as standard conduct in the United States. The cesarean operation has more restricted indications than we are wont to associate with it, but full descriptions of both the conservative and radical operations are given.

The handling of the complications of labor is well described, especialy that of eclampsia.

The book is recommended as an embodiment of conservative, manipulative midwifery, with all the aids which modern medical science has brought to bear upon it.

In looking over this and similar books, one is inclined to lay stress on the fact that insufficient attention is being given in our medical colleges to the teaching of practical obstetrics. The fact that the Unitded States has a higher maternal mortality rate than almost any other country is not to its credit nor can it be altogether put on the shoulders of the midwife.

Falta: Kidney and Pancreatic Glycosuria

RENALTER UND INSULÄRER DIABETES. *Von Prof. Dr. W. Falta, Wien. Mit 43 Kurven. Berlin and Wien: Urban & Schwarzenberg.* 1930. *Price, RM* 5.

In this monograph, Falta, by the study of a large number of clinical cases, shows how to differentiate kidney glycosuria from true pancreatic diabetes. The mere presence of abnormal sugar in the urine is not always evidence of diabetes.

Kuntz: Autonomic Nervous System

THE AUTONOMIC NERVOUS SYSTEM. *By Albert Kuntz, Ph.D., M.D., Professor of Anatomy in St. Louis University School of Medicine. Illustrated. Philadelphia: Lea & Febiger.* 1929. *Price* $7.00.

In this volume the author attempts, on the basis of both the older and more recent studies, to describe the autonomic nervous system briefly, but adequately, in relation to the organs and tissues innervated through it and in relation to the cerebrospinal nervous system.

In general, Langley's classification is accepted. In this the autonomic system may be regarded as the division of the nervous system which includes all the neurons lying outside the central nervous system and cerebrospinal ganglia, except those associated with the special sense organs, and the cells through which these outlying neurons are functionally connected with the central nervous system.

The author traces the development of the autonomic system and its physiologic relationships to the cerebrospinal nervous system, and sets forth the more important pathologic and clinical data bearing on the functional relationships of this division of the nervous system in disease.

There are 20 chapters, dealing principally with the innervation of various regions.

While essentially a book for the clinical neurologist or anatomist, any practitioner of medi-

cine who is interested in the functional and motor activities of the body and the nervous forces that activate them will find this an excellent and most interesting guide. There is a very extensive bibliography at the end of the book.

Mulliner: Mechano-Therapy

MECHANO-THERAPY. A Textbook for Students. *By Mary Rees Mulliner, M.D., Formerly Instructor in Mechano-Therapy in the Summer School of Harvard University; in the Sargent School for Physical Education; etc. Illustrated with 57 engravings. Philadelphia: Lea & Febiger.* 1929. *Price* $2.75.

This little manual is described as a textbook for students, and indeed half of the fourteen chapters which are comprised in it are devoted to descriptions of manipulative exercises.

There is a place in schools for the mechano-therapist for personal hygiene, and corrective gymnastics under medical supervision; and this book should, on account of the extensive experience of the author, be a very suitable guide to students who desire to become technicians.

When, however, a volume of this kind presumes to describe methods of *treatment*, without the supervision of a physician, evidently for such conditions as sprains, constipation, heart and nervous troubles, etc., it becomes a medium of cultism and quackery, just like a treatise on chiropractic or naprapathy, and should be discountenanced by the medical profession. The masseur and mechano-therapist should be kept in his place, as a technician who executes a physician's orders.

Ramsay: Eye in General Medicine

THE EYE IN GENERAL MEDICINE. The Constitutional Factor in the Causation of Disease; with Special Reference to the Treatment of Diseases of the Eye. *By A. Maitland Ramsay, M.D., LL.D., Fellow of Royal Faculty of Physicians and Surgeons, Glasgow; Consulting Ophthalmic Surgeon, Glasgow Royal Infirmary. Second Edition of "Diathesis and Ocular Diseases." New York: William Wood and Company.* 1929. *Price* $5.00.

This is the second edition of the author's book, published in 1909, entitled "Diathesis and Ocular Diseases."

Dr. Ramsay claims and shows that many constitutional and other diseases are reflected in the eye and that, as a consequence, many eye diseases are nothing more than the local expressions of disease that has its focus elsewhere. Glaucoma, toxic inflammation of the iris, eye strain and other conditions are considered in this light. Less familiar examples, however, are the ocular manifestations of disordered carbohydrate metabolism and defective elimination.

In the general physical examination of patients, the doctor pleads for a greater attention to the eye than is usually given.

In reading over the painstaking analysis of ocular manifestations of constitutional diseases, as given by the author and based on his long experience, one feels that all his statements are more or less true; but one also feels that most practitioners will take shorter paths to arrive at their estimations of the symptom-complex.

In a broad sense, the book means that the eye specialist should look beyond the local organ in dealing with its disorders; this, however, applies to most other specialties.

Physicians in general will find much material for thought in this moderate-sized book.

Liddell and Sherrington: Mammalian Physiology

MAMMALIAN PHYSIOLOGY. A Course of Practical Exercises. *By E. G. T. Liddell, D.M., Fellow of Trinity College, Oxford, and Sir Charles Sherrington, O.M., M.D., D.Sc. (Cantab.), F. R. S. Waynflete Professor of Physiology in the University of Oxford. New Edition. London and New York: Humphrey Milford, Oxford University Press.* 1929. *Price* $5.50.

The reviewer knows of no other book which covers exactly the same course as the one before us—a series of lessons for the student on applied physiology, based on mammalian subjects. English investigators have contributed some of the most remarkable additions to the science of experimental physiology, and, as a teacher of this subject at Oxford University, Sir Charles Sherrington has achieved a world-wide reputation. In this new edition of his book he has associated with him his fellow teacher, Dr. E. G. T. Liddell.

The volue, which may be described as an atlas-textbook, covers the university students' course in animal physiology. There are 24 lessons, each accompanied by explanatory sketches (many of which are in two colors), taken from actual specimens.

The text is helpful to the student in pursuing his own course, rather than being exact and full in its descriptions. The aim is to make the student depend on himself as much as possible.

A word of commendation should be said for the bookwork; the type is beautiful and clear, there are wide margins, the binding is solid and attractive and the paper is thick and opaque.

The work is recommended to all teachers and students of physiology.

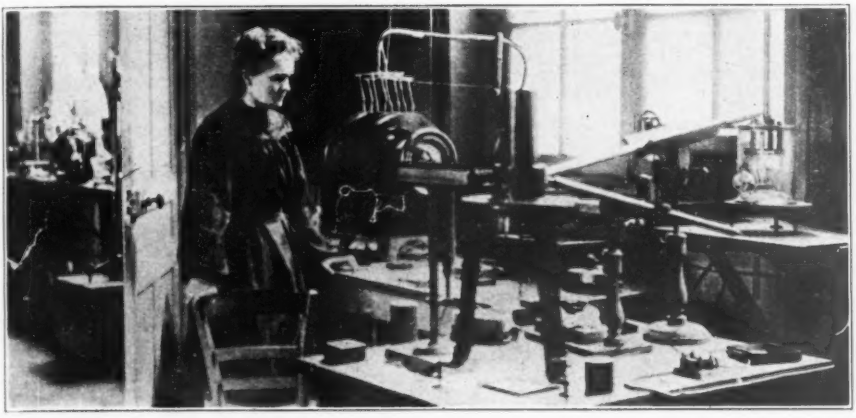
Warren: Medical Science

MEDICAL SCIENCE FOR EVERYDAY USE. *By Shields Warren, A.B., M.D., Pathologist, Palmer Memorial Hospital, Boston, Massachusetts. New York and Philadelphia: Lea & Febiger.* 1927. *Price* $2.00.

This little volume is compiled from a number of newspaper articles on health and the common diseases, written specially for the layman. Such matters as diet, obesity, sleep and exercise are included, with chapters on the common infectious and morbid conditions usually prevalent.

The book may be recommended for laymen, as presenting such matter correctly, in simple, understandable language.

MEDICAL NEWS



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Madame Curie

Mme. Marie Sklodowska Curie, who has recently been in the United States to receive the second gift of a gram of radium, from the women of this country, worked, with her illustrious husband, under most depressing conditions of poverty and discouragement, during the early days of their epoch-making researches.

The rare picture above shows Mme. Curie in her laboratory, as it appeared, years ago, when she was struggling for success and recognition.

Location Near Chicago

It is reported that the residents of Niles Center, Ill., a relatively new suburb of Chicago, near Evanston, desire that a physician locate in that community.

Full details may be obtained from Mr. H. Harrold, 4710 Oakton St., Niles Center, Ill.

Postgraduate Courses in Physical Therapy

Northwestern University is offering, at its Medical School in Chicago, postgraduate courses in physical therapy to members of the A.M.A. and the Canadian Medical Association. These courses are intensive, last four weeks and have been planned so as to enable a physician to prescribe or administer the various physical methods of treatment with intelligence and judgment.

The next course will begin April 21, 1930. For full particulars, write to The Dean, Northwestern University Medical School, 303 E. Chicago Ave., Chicago, Ill.

Women Medical Officers

The Military Academy of Medicine at Leningrad, Russia, has matriculated this year, for the first time, 12 female medical students who, after having completed their studies, will become military medical officers.—*Presse méd.*, Paris, Nov. 30, 1929.

Dr. Tibbins, Bandit-Chaser

Dr. George H. Tibbins, of Beech Creek, Pa., had a thrilling adventure last September, when he led in the chase and had a hand in the capture of three bandits who had robbed the First National Bank of $12,000.

Doctors should always be able to act quickly in an emegrency, and Dr. Tibbins has demonstrated his ability in this line where the whole community could see it. He has probably done equally courageous things many times, in the course of his practice, about which no one ever heard.

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Detoxicated Morphine

Dr. Hans Much (shown above), director of the Hamburg Biologic Institute, recently announced, in the *Münchener med. Wochenshrift,* that he has, by the use of certain lipoids, been able to partially detoxicate morphine and other poisonous drugs. He says that the same process may be used for the partial extraction of caffeine from tea and coffee and to diminishing the toxicity of most biologic poisons.

The prize offers on page 6 of the January CLIN. MED. AND SURG. are worth studying.

Telephone Consultations

It is reported that the physicians of Peekskill, N. Y., have agreed together to make a charge of one dollar for every consultation by telephone. That is a wise move, from both the business and professional standpoints. More patients will come to the office, where they can be properly examined; and the doctors will add a number of dollars to their incomes, from those who persist in using the telephone.

Foreign Clinical Assemblies

The Interstate Postgraduate Medical Association of North America offers, again, a splendid clinical tour of Europe for 1930. The trip will last from May 14 to July 10, and will be cultural and recreational, as well as scientific.

The party will visit Berlin, Prague, Munich, Oberammergau (to attend the Passion Play), Vienna, Venice, Rome, Naples, Florence, Milan, Interlaaken, Lucerne, Zurich, Berne and Paris.

Full particulars may be obtained from the Managing Director, Dr. W. B. Peck, Freeport, Ill.

If you missed the prize offers on page 6 of the January CLIN. MED. AND SURG., look them up or write for particulars.

Research on Iodine

A new organization, the Iodine Educational Bureau, has opened offices in New York, with the purpose of collecting and disseminating reliable information about iodine and its compounds. Research work will be undertaken and, to that end, a fellowship has already been established at the Mellon Institute and others are said to be in prospect.

Nobel Prize Winners

The Nobel Prize award in Medicine this year meets with universal approval. It goes to Prof. Sir Frederick Gowland Hopkins, of Cambridge, Eng., and Prof. Christian Eijkman, of Utrecht, Holland, for their discoveries and demonstrations in connection with the vitamins.

Though the work of these two men, both of whom have made other significant contributions to medical science, was done at almost opposite poles of the earth, it was carried on simultaneously, each being ignorant of the studies the other was pursuing.

The vitamins are now so firmly established in the world's thought that it is difficult to remember what a struggle these investigators had in overthrowing the nutritional theories of Liebig and Voit, which dominated the medical world for years.

Send For This Literature

To assist doctors in obtaining current literature published by manufacturers of equipment, pharmaceuticals, physicians' supplies, foods, etc., CLINICAL MEDICINE and SURGERY, North Chicago, Ill., will gladly forward request for such catalogues, booklets, reprints, etc., as are listed from month to month in this department. Some of the material now available in printed form is shown below, each piece being given a key number. For convenience in ordering, our readers may use these numbers and simply send requests to this magazine. Our aim is to recommend only current literature which meets the standards of this paper as to reliability and adaptability for physicians' use.

Both the literature listed below and the service are free. In addition to this, we will gladly furnish such other information as you may desire regarding additional equipment or medical supplies. Make use of this department.

When requesting literature, please specify whether you are a doctor of medicine, dentistry, medical student, a registered pharmacist, or a nurse.

Z- 2 Your Prestige and Profit. 8-page booklet. The Carroll Dunham Smith Pharmacal Co.

Z- 3 Storm Binder and Abdominal Supporter. 4-page folder by Dr. Katherine L. Storm.

Z- 5 Ethical Medicinal Specialties. 8-page booklet. A. H. Robins Co.

Z- 17 An Index of Treatment. Burnham Soluble Iodine Co.

Z- 45 Vera-Perles of Sandelwood Comp. Paul Plessner Co.

Z- 47 Campho-Phenique in Major and Minor Surgery. Campho-Phenique Company.

Z- 49 The Calcreose Detail Man. Maltbie Chemical Co.

Z- 56 Regaining Health. How Science Can Guide You! The Fleischmann Company.

Z- 95 Everything for the Sick. Lindsay Laboratories.

Z-103 The Electron, January-February, 1930. McIntosh Electrical Corporation.

Z-116 Hemo-Glycogen, The New Product Hemoglobin Compound and Liver Extract. Chappel Bros., Inc.

Z-120 Building Resistance. William R. Warner & Co., Ltd.

Z-156 Siomine (Methenamine Tetraiodide). Pitman-Moore Company.

Z-176 The Hormone, 24 pages and cover, published bimonthly. The Harrower Laboratory.

Z-196 "Facts Worth Knowing." Intravenous Products Co. of America, Inc.

Z-236 Throughout the Span. Advanced Age. William R. Warner & Co., Ltd.

Z-244 I Am Oxiphen! Pitman-Moore Co.

Z-255 Mellin's Food Biscuits. Mellin's Food Company.

Z-256 The Modern Way of Giving Digitalis. Upsher Smith Co.

Z-258 Prophylaxis. August E. Drucker Co.

Z-262 Journal of Intravenous Therapy, February, 1930. Loeser Laboratory.

Z-268 Eat Uncle Sam Health Food. Uncle Sam Breakfast Food Co.

Z-269 Special Course No. VI Traumatic Surgery. Illinois Post Graduate Medical School, Inc.

Z-271 The Intestinal Flora. The Battle Creek Food Company.

Z-286 Ultra Violet Therapy in Your Office. A. S. Aloe Co.

Z-292 Acidosis and Infection—Alka-Zane. William R. Warner & Co., Inc.

Z-301 Merrell's Salicylates. The Wm. S. Merrell Company.

Z-310 Conclusions from published research of the value of Ceanothyn as a hemostatic. Flint, Eaton & Co.

Z-318 Blood Clinical and Laboratory Diagnosis. A book of 160 pages by Henry Irving Berger, M.D., Battle & Company.

Z-335 The Bloodless Phlebotomist. The Denver Chemical Manufacturing Company.

Z-336 The Secret of our Digestive Glands. J. W. Wuppermann Angostura Bitters Agency, Inc.

Z-341 History and Usage of Zinc-Borocyl. Alpha Products Co., Inc.

Z-347 A Graphic Chart of the Treatment of Circulatory Disturbances. Merck & Company.

Z-354 Getting the Most Out of Life. Stanco, Inc.

Z-359 Vattenborg, Colonic Mobile Unit for Colon Irrigation. McIntosh Electrical Corporation.

Z-360 One of the First Questions Every Doctor Asks. A Treatise on Constipation. Kellogg Company.

Z-366 Iodotherapy by Harry J. Novack, M.D. Colloidal Laboratories.

Z-369 Burdick Zoalite Series for Infra-Red Therapy. The Burdick Corporation.

Z-370 Restoring the Rhythm of Elimination. Huston Bros. Co.

Z-371 The Use of Sulphocyanate of Soda in High Blood Pressure, reprint from The Canadian Medical Assn. Journal. The Tilden Company.

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